The American Journal of
CLINICAL MEDICINE
Dependable Therapeutic Fact for Daily Use

NOVEMBER M C M X V

A Great Program

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Let's Tell the People About Our Work

THE advance sheets of the annual report of the Rockefeller Foundation, which lie before us, tell a wonderful story of the educational work that is being done among the people of southern states and of Central America, in connection with hookworm-disease. The whole work is done by means of demonstration. The field-directors tell the story of this disease in varied graphic forms and in terms so simple that the common man, although he be illiterate, may see and understand. In the South, the work is done chiefly through the medium of the schools, the public press, pamphlets, and circular letters.

Among the natives of the tropical countries, however, the subject must be presented in a more direct and concrete form. Here, the directors rely more upon the telling of the story by word of mouth, and while they are telling it they illustrate its details by means of lantern-slides, photographs, and objects. Thus, they exhibit the egg of the parasite microscopically enlarged; they show parasites that have been expelled under treatment; and by means of the lens they show the living, squirming embryos that live by teeming thousands in the soil that has been befouled by infected persons and which are ready to infect anyone with whose bare skin they come in contact.

The disease thus lends itself so readily to simple demonstration that the people—even the primitive natives of tropical countries—easily understand its whole story; and, as a result of this educational work, the people cooperate helpfully both in the work of treatment and that of prevention.

This is a specific application of the same principle which we have frequently urged with respect to the science of medicine in general, namely, the frank and unreserved opening to the lay public of all the moving panorama of medical knowledge and progress, so that all who run may read. Some little time ago, Mr. Garrett P. Serviss, the popular writer on astronomy in this country, advocated the erection and endowment of a large telescope for the public, through which the people might see with their own eyes the astronomic marvels that fired their imagination and excited their higher curiosity, thereby furthering the cause of science and general education. Applying Mr. Serviss' suggestion to the phenomena of medical science, we cordially commend his proposal as being worthy of adoption.

It is not to be supposed that the building of a popular observatory and the viewing of the heavens through its telescopes by the public eye would turn anyone into a quack astronomer or injure the interests either of the public or the astronomers; nor, on the other hand, is it at all likely that, taking the public into our confidence in matters of medicine—allowing them to gaze through our telescopes, so to speak, and witness in their own way all that passes across the firmament of medical science—would promote quackery or self-medication in the layman or in any way impair the relations between him and the physician. On the contrary, as Mr. Serviss observed, "it would be a corrective for all intellectual narrowness, superstition, ignorance, bigotry, mental blindness, and pettiness of view."

There was no suggestion in Mr. Serviss' proposition of grudgingly and paternally doling out astronomic education to the public in such doses as the astronomer thinks the public ought to have or might be able to digest. His idea was, to admit the public into full and unstinting partnership, in the people's own way and to the extent of their viewpoint, in the truths of astronomy, to say to them, in effect: "Here are the phenomena that are daily passing across the field of our work—consider them. While it is true that our technical business with them gives us a peculiar relation to them, you, from your viewpoint, understand and invest them with a significance just as important and worth-while as ours."

Such is the public partnership in the truths and progress of medical science which this journal has earnestly advocated, and will continue to advocate.

The rewards of life are for service. And the penalties of life are for selfishness.—The Fra.

A FEW FACTS ABOUT INFECTION

Infection consists of the introduction into the human economy of a foreign element, a living invader. However, unless we have disordered function or there is exceptional virulence of the invader, the possibility of such invasion being successful as also the gravity of its effects really depend upon the condition of the subject himself, including his self-protective powers as opposed to the virulence and proportion of the infection.

Let us take as a working-hypothesis the presence of innumerable bacteria at every point upon or within the body, ready to effect a lodgment whenever and wherever the forces of defense may weaken. Together with this, adopt the doctrine of a *locus resistentiae minoris*, that is, that there is some part more vulnerable or less strongly defended than the rest. This may be the result of injury or previous disease. Under these conditions, if the general bodily resistance is temporarily lowered, local disease appears at this the point of lowest resistance.

The lowering of the general bodily resistance may be a consequence of exposure to cold, for instance; then the ever-present pneumococcus invades the tip of a lobe next the bronchi; or streptococci attack the tonsils or pharynx and produce tonsilitis, rheumatism or septicemia, depending upon reduction of resistence. Excessive physical exercise may load the body with waste faster than the organs of elimination can dispose of it—the athlete's training, let us say, then is marked by a crop of boils. No single cause of lowered vitality, with resulting infection, is so important as fecal toxemia, for, when the defensive forces of the body are taxed to the utmost in combating the absorbed toxic material, they cannot in addition resist the invasion of pathogenic bacteria.

In dealing with infections, we have two resources, namely, to attack the invading host directly, and to increase the general bodily resisting-powers.

This indicates resort to socalled specifics, and our hope in this direction lies in studying the biology of each particular microorganism. This search has been prosecuted for ages, but only recently has any measure of success, that inspires hope, been attained.

True, we have long known that quinine was practically a specific against the parasite of malaria, and have known even longer that mercury availed in syphilis. Not so long ago we found that iodine induced an amelioration of the symptoms, and that the iodides of mercury possessed certain advantages over other forms. About sixteen years ago we added arsenic iodide to our customary antisyphilitic combination, and obtained better results than ever before; so that we were the less surprised when the brilliant results following the use of organic arsenic were announced. William J. Robinson repeatedly has called attention to the remarkable value of pilocarpine in treating syphilis. But more of this later.

A third instance is diphtheria antitoxin, the first, and greatest, success of serum therapy. Most wisely this has set the pro-

fession to search and to try further to develop the antitoxic principles. And this has yielded promising results; only, unfortunately, it led to a desertion by many of the older resources, the drugs. The success of arsenobenzol, however, has gone far to check this defection, for Ehrlich has shown that the botanical and mineral remedies, far from being exhausted as to their possibilities, have never been studied scientifically, and that, indeed, many of these drugs possess curative powers hitherto undreamed of. And this applies to the oldest and the best-known agents of our materia medica.

Next to these, lies a group of drugs that are of value in many infections, but more of especial value in certain ones. Thus, for sixteen years we have looked upon the sulphides of calcium and of arsenic as exerting marked control over the manifestations of gonorrhea. Then Coleman reported that calcium sulphide exerted a marked effect in whooping-cough. Castro reported on its value in smallpox. Now nearly every infectious disease affecting man has been reported as being similarly favorably influenced by calcium sulphide.

Not that this testimony is uniformly favorable; but, then, it is not to be expected that all doctors using various preparations of a salt notoriously difficult to handle pharmaceutically and prescribed in varying doses should yield uniformly good results. However, in measles and in septicemia, there have been failures so constantly that we recognize the inapplicability of the calcium sulphide in those particular infections.

Next comes pilocarpine. From a quarter century of practical success, we look upon this alkaloid as a practical specific in sthenic erysipelas. Then, pilocarpine was recommended for syphilis and for other infections. It had been observed that a very pronounced leukocytosis followed its use—and it may, indeed, be that to this we must ascribe its remarkable effects in a measure.

Be this as it may, there is scarcely an instance in medicine of such control being exerted over an infectious disease as does pilocarpine over sthenic erysipelas. Not even quinine in malaria equals it. If this action be owing to leukocytic reinforcement, may not nuclein be of value also?

Vaughan found that nuclein increased the number and activity of the leukocytes, and, accepting Metchnikoff's theory of phagocytosis, this would point to nuclein as of value in many infections. The main obstacle to its popularization is, that its immediate effects are not readily estimated unless repeated blood-counts are made.

In conclusion, the treatment of infectious maladies may be summed up tersely as follows:

1. Put the hygiene of the body and surroundings in as near perfect order as possible; for it has been proved abundantly that the severity of the attack has a more or less direct ratio to the faults in sanitation.
2. Clear out the bowels and as nearly as possible disinfect them.
3. See to it that the organs of elimination are kept working to their full capacity, free and unimpeded.
4. Regulate the nutrition by the patient's needs and not according to his digestive capacity.
5. Utilize the specific, if one be known.
6. Saturate with the sulphides or nuclein, or with both.
7. Treat the symptoms as they turn up, seeking to restore and maintain physiologic balance.
8. Foresee and provide against coming perils, such as the cardiac sequels of rheumatism, the paralysis of diphtheria, heart failure in pneumonia, and the like.

A keen west wind from the hills away.
A rustle of curled brown leaves,
A blazon of colors—O, autumn day,
How memory subtly weaves
Into your scents and leaf-lit fires
Hopes and dreamings and dead desires.
—Richard Burton.

DUST TO DUST

The weekly bulletin of the New York Health Department for September 18 contains a report upon some exceedingly interesting researches into the composition of street-dust, samples of which were taken from several localities and under varying conditions. "The flora found," we are told, "was too complex to lend itself to superficial analysis; however, the organisms developing were chiefly proteus- and colon-bacilli, molds, the bacillus subtilis, streptococci (both green and hemolyzing), and staphylococci. Colonies that were, probably, of the bacillus pyocyaneus and of bacillus prodigiosus were also noted." More organisms were found—four times more, in fact—in shaded localities than in the direct sunlight.

Apart from the irritation produced mechanically by the inhaled dust, it is readily seen that much local infection of the upper air-passages may be ascribed to organisms contained in the street-dust. Fruit displayed

on street-stands is now to some extent protected, although we have yet to see screens that are ideally effective in this respect. Thick deposits of this germ-laden dust are to be found on these fruits, especially on the downy skins of peaches; the apples generally are cleaner, thanks to vigorous polishing on the seat-area of the dealer's nether garments or his white-dotted red handkerchief, applied in the intervals between customers' visits.

One should make it a rule to eat no street-vender's fruit until it has been properly cleansed; and an effective (yet, economical) method of antiseptic dry-cleaning that would not impart a chemical flavor to the delicacy would be a desideratum. The same should apply to the vegetables displayed in front of grocers' stores. The housewife can not be "too particular" in her treatment of such articles. The fact that much of the flavor of fruits is lost with the skin prevents most people from removing this infected integument, and this points to the desirability of a harmless, yet, effective, method of treatment. Were the fear of Wiley not upon us, we might suggest a solution of benzoic or salicylic acid, applied with a towel dampened with the solution.

Two things seem desirable, namely, that the family physician appreciate the importance of this matter, and that he busy himself with instructing his people upon it. Were such duties generally recognized and fulfilled, we should hear less of the "passing of the doctor."

One of our daily papers remarks that German generals have done more than a whole volume of medical essays to disprove the Oslerian theory that old men are of no special value in the world.

THE PSYCHIC ELEMENT IN TWILIGHT SLEEP

We just have received a very interesting communication from Miss Mary Boyd, one of the joint authors of the article on twilight sleep that originally appeared in *McClure's Magazine* some months ago, and which has been quoted and discussed and criticized and elaborated upon from Maine to California ever since; also, who is one of the joint authors of the book on the subject recently published. Miss Boyd says:

"In a recent issue of THE AMERICAN JOURNAL OF CLINICAL MEDICINE, in commenting on the reaction of the medical profession to the lay twilight-sleep propaganda, you use the term 'psychic anesthesia.' Can you let me know how this term originated, and also refer me to some published articles or books on the subject of alkaloidal anesthesia and anoci-association, specifically in this aspect of psychic anesthesia? I am very familiar with the literature, in three languages, of this subject, from every other aspect, and it is the psychic side that I wish especially to study."

It was a little difficult to reply to Miss Boyd's inquiry with any satisfactory degree of clearness or decision, because of the unfortunate lack of both these elements in the prevalent conceptions of what constitutes psychic phenomena and psychic effects. Naturally, one must reach some sort of tentative agreement with his interlocutor, as to the definition of psychic, before one can intelligently and intelligibly discuss the application of the term to a given process—to anesthesia, for example.

In the common, lay understanding of the word, a psychic phenomenon is one which is brought about sheerly through the agency of mental processes, either through the mind of the individual himself or by the operation of one mind upon another. To the layman, a psychic impression is synonymous with a more or less deceptive play upon the imagination, leading the subject to believe that certain things are so which, in reality, are not so, and thus producing upon him the same effect as though they were actually as he imagines. To the more highly trained layman (among whom, of course, we recognize Miss Boyd), it means more than this. While still restricting the term psychic to the sheer operations of the mind, these keener observers understand that the truly useful and scientific employment of "psychic effects" far more often implies just the opposite process, that is to say, the release of the mind from deceptions and delusions and its conversion to a true appreciation of things as they really are.

Both of these views, however, have this in common, that they restrict their conception of the term psychic to sheer operations of the mind, without the direct intervention of any physical agency. They regard psychic impressions, whether they arise in the mind of the subject or are insinuated into his mind by the words or acts of another, as consisting purely in persuading the subject to think that certain things are so. And even from this viewpoint there is much to be said upon the psychic element in anesthesia, as we shall presently indicate.

But to the medical scientist, there is still a broader and more liberal significance in

the term, and it was this that we had in mind, in our use of the term "psychic anesthesia," in the editorial to which Miss Boyd refers.

Our meaning was, to call attention to the different modes of action of the various anesthetic agents. Broadly speaking, these fall into two classes: those which act upon the immediate sensory tracts, and those which act upon the more subtle psychic areas of the brain. We are well aware that this distinction cannot be pressed too closely; that, in fact, the sensory and psychic factors are mixed up in *every* mode and form of anesthesia; still, in certain methods, one or the other factor predominates to such an extent that, for all practical purposes, they can be regarded as being sensory and psychic, respectively.

If, for example, we render the sensory function of the tissues so inactive by the local use of cocaine so that no sensory current is carried to the brain, the painlessness thus induced can not, in ordinary parlance, be called a psychic phenomenon. It is sheerly a blocking of the sensory tracts, and all the psychic activities of the brain pursue their normal course while the painless violation of the tissues goes on. But, if, on the other hand, the paths of the sensory impulses to the brain are left unimpaired, so that sensory impulses flow in unhindered and actually register themselves in the cortex, but the complex associative functions of the brain—the socalled psychic areas—are so dissociated or perverted that there is no recognition or memory of the painful stimuli, then we are justified in calling that type of anesthesia distinctively psychic.

It is to this class of anesthetics, principally, that twilight-sleep belongs. It is not, primarily, an analgesic, but an amnesic. To be sure, it is both. But the purely analgesic —the pain-extinction—effect of the scopolamine and morphine would not, of itself, suffice, by a long way, to afford the relief from suffering that the twilight-sleep yields.

It is the amnesic influence of both the alkaloids, and especially of the scopolamine, to which is superadded the sensory modification of the morphine, that attains the really wonderful effect. And this is what we had immediately in mind when we used the term "psychic anesthesia."

To this, however, must be added the purely psychic effect, in the ordinary sense of the term. The truth is, the sheerly physical pain of childbirth, in the average woman, is not so intolerable as is generally supposed. A large proportion of the agony is psychic —real enough, and even more distressing, no doubt, than physical pain—but, still, psychic.

Indeed, we are here face to face with an exceedingly profound psycho-physiological problem, as to how great a part the human psyche plays in *all* suffering, and in all therapy, too. Certain it is that the suggestion and *entourage* of calm and painlessness attendant upon the twilight sleep play no small part in its efficiency; and this phase of the psychic element will be greatly enhanced by the publicity recently given to the whole subject.

As Miss Boyd very pertinently remarks, the literature upon this aspect of the subject is surprisingly scarce. It is a side of the matter upon which a great deal of interesting and valuable data might be collated and many equally interesting and valuable conclusions reached.

Before closing, we cannot deny ourselves the gratification of quoting the concluding paragraph of Miss Boyd's letter:

"I assure you that I appreciate the struggle that your journal has put up for more than twenty years for the wider use of alkaloidal anesthesia in surgery and childbirth."

Give me not scenes more charming; give me eyes
To see the beauty that around me lies;
To read the trail of souls, see angels shy
Among the faces of the passers-by.
I do not ask for sweeter music than
The common, daily symphony of man,
Could I but grasp its counterpoint, and see
How each discord melts toward harmony.

—Frank Crane.

"SOME NATIVE REMEDIES WORTH TRYING"

In an article printed elsewhere in this number, Doctor Smith takes us straightly to task for an editorial, in our April issue, bearing the above caption. This article is well worth reading and studying. Doctor Smith presents the cause of separatist Eclecticism with vigor and truth—from his standpoint; and from his stand many of his strictures on our editorial may be admitted to be merited. But one must, in justice to ourselves, take that utterance as seen from our standpoint. And this is that of a "regular," who warns his "regular" brethren that they should not assume the attitude taken by all too many "authorities" toward the Eclectics, as being illiterate pretenders, whose publications do not merit any consideration whatever. We mildly insinuated that even our own men might find some stray bits of valuable grain

among the mass of what too many deem mere trash.

Quite naturally, Doctor Smith has taken this as our own attitude, failing to read between the lines and to appreciate the audience we were addressing. If he were talking to a meeting of union laborers on the trades-union question, he might possibly draw his remarks a little milder than if he were talking to the Employers' League on the same topic.

Let us take up some points in Doctor Smith's paper that seem to call for comment.

1. While Eclecticism may have begun with Beach, it never will escape the association, in the popular mind, with Thomson and his immediate followers; and it was to them that the writer of the editorial in question referred. Since it was they who initiated the movement that eventually resulted in the foundation of Eclecticism, it is quite fair to speak of them in that way. When restricting the term to the school of practice founded by Beach, Doctor Smith's protest is justified, of course.

2. "Regular!" Surely, this designation is as a red rag to a bull. But what would you have? The designation "Allopathist" conveys a false idea and is misleading. It was invented and applied by Homeopathists and designed to commit us to a creed we never adopted, namely, that of employing remedies that exerted an action contrary to the symptoms induced by the disease, whereas they themselves employed agents that produced symptoms similar to those of the disease. We have never accepted the name "Allopathist," because it does not fit. In truth we have always denied that we had any leading principle of therapy such as Homeopathists adhere to. This writer has as much use for a separatist designation as for a hyphenated American. Doctor, Unlimited, is our only correct designation.

The word "regular" is a slap at all the others, if it is so meant; but here, we must admit, it was carelessly used, for want of a better term. Most assuredly we have absolutely no aspersions to cast upon our brethren of any regular school, and by that term we now mean any class of practitioners who meet the legal requirements of the state boards, regardless of whether they call themselves Homeopathists, Eclectics or any other thing. We are first and last advocates of personal freedom and of the individual rights of every citizen as to belief and practice; and when we favor, as we do, the dropping of sectarian designations, it is because we see no reason for them; since any respectable practitioner may believe and practice as he sees fit and, yet, belong to every medical association in the United States he may wish to join. More than this, we see that the need for separatism has passed and that the departments of medicine which these men have cultivated and the tenets they have evolved should be pushed in the general assemblies. The cause of specific diagnosis and practice is hindered by separatism, since it is, perforce, looked upon as a sectarian tenet.

The Eclectic should come into the general meetings and there present and defend his peculiar views, the same as any other medical man. If he is not strong enough in his position to do this, he is giving up the fight without a trial. It is no way to win a war by sitting safely in the fortress and leaving the open country beyond the walls to the enemy.

3. Certainly, since Bartholow, many writers on therapeutics have discussed remedies used and introduced by the Eclectics; it is a mistake, though, to assume that all they say is taken from these sources. Our own advocacy of the treatment of disordered function by means of remedies that restore physiologic equilibrium has been based upon our own clinical studies and was adopted years before we found that the Eclectics had taken similar ground. A suggestion here—the Eclectics of yesterday are not any more ignored than the—unlimited doctors of the same period. Mighty little is taken into account now of that which originated more than twenty years ago. Who now quotes Trousseau, Niemeyer, Da Costa, Ringer, Waring, Gubler, Wood, Bartholow, Fothergill, Richardson, Stillé, Pepper, or any of the celebrities of the last century?

4. We think so, too.

5. This statement may be modified in accord with the facts, as related to each individual. The advances of therapeutics made in many departments have been by the unlimited men, and of these some have been taken up by the Eclectics; but the original work of the latter seems to have been mainly along the lines of the native vegetable remedies. Is that clear and satisfactory? It is a matter of small importance, anyway.

6. This should have read, "the group of men of whom Lloyd is the best-known to the unlimited profession."

7. This is largely answered above. By the passing of Eclecticism, we meant, of course, as a separate school or sect. The

principles elaborated by these men will live or die, according to their merits. The objections to the evidence proffered by them as to the merits of many of their remedies applies equally to those presented by other schools, including the unlimiteds. We can not, today, ignore the laboratory, and more than that, we insist that the laboratory must not ignore the clinician. The whole materia medica, unlimited, Eclectic and Homeopathic, must be restudied with the aid of modern methods before we see a return to drugs by the profession or the people. The sooner we quit snapping at each other over bygone issues and obsolete quarrels, the better for all of us.

8. Why should these men thus renounce their own beliefs and the valuable part of their knowledge? Let them come with heads erect, frankly stating that they are among us to learn, and also have something of their own to return to the general mass of the profession. This writer, were he an Eclectic, would not feel any sense of inferiority, nor any obligation, to deny his previous affiliations or beliefs.

The wicked are wicked, no doubt, and they go astray and they fall, and they come by their deserts; but who can tell the mischief which the very virtuous do.
—William M. Thackeray.

EXPLAINING THE UNACCOUNTABLE

It is a little late in the day to offer editorial comment upon an article that appeared in the September number of CLINICAL MEDICINE; but even medical editors take vacations when they can get them, and it happened that this editor was taking his at the time Dr. Edwin F. Bowers' article on "Explaining the Unaccountable" was published. He has been promising himself ever since that he would seize the first opportunity to make a few remarks about it, and here they are. Better late than never.

Doctor Bowers propounds some pretty large questions in his interesting paper. Indeed, he propounds the question of questions, which philosophers in all time have sought to answer—the solution of which, in fact, is the demonstrandum of philosophy itself—the question of an "ultimate cause" of which all known phenomena may be shown to be effects.

From Aristotle to the eighth Duke of Argyll, there has been a persistent attempt on the part of world philosophers to reduce the universe to a state of intelligible orderliness by the demonstration of what is commonly called a "natural law" running through the whole; and this, of course, implies, not necessarily the definition or description, but at least the establishment of one ultimate phenomenon, of which all the known phenomena of the universe, which appear so diverse, are mere variations. Bergson has recently made a still more modern contribution to the attempt by the postulation of his *elan*, or life-impulse.

There is, of course, no fundamental difference between the "final cause" of Aristotle and the *elan* of Bergson; and Doctor Bowers evidently accepts the concept underlying both these terms, without attempting to define them any further. What he undertakes to do is to show that the working method, so to speak, of the life-impulse is the same, all through mind and matter; that this working method is vibration; and that the numerous epiphenomena of the universe (i. e. the effects of phenomena upon our senses) are due to differences in the rate of vibration which they represent. While we understand this theorem of Doctor Bowers' to be a universal one, which he extends to *all* phenomena of life and death, he has, in the article published in CLINICAL MEDICINE, naturally made a more or less specialized application of it to the phenomena of physiology and pathology with which the physician has to deal. In brief, health of body or mind consists in a maintenance of cell-vibrations within the normal, inherent limits of the cell-electrons; disease and death represent either a falling below or a transcending of those normal, inherent limits.

What we wish to point out, especially, in this editorial is, that the theorem is not the wild, chimerical fantasy of an erratic brain whose own vibrations are exceeding the speed limit. Doctor Bowers has sober, scientific ground for his postulate. It is, in fact, the logical application of the modern demonstrations of natural science to philosophy—which means an inductive, instead of a deductive, philosophy of life. And if it appears, at first, that his explanation of the "unaccountable" is purely an abstract one, with no practical working value, we must bear in mind that philosophic hypotheses, *if they be sound*, are invariably and inevitably the precursors of practical working methods.

It is, indeed, time that our concepts and our methods of investigation of diseases and therapy were made to square more thoroughly with the recent developments of natural science. The radical and revolutionary

changes that have taken place within the past twenty years in our conceptions of physical and chemical processes, as a result of the work of such men as van t'Hoff in surface tensions, J. J. Thompson, and others, in the electron doctrine of the elements, calls for an equally radical and profound modification of our study of therapeutic agents and their action. The theory postulated by Doctor Bowers may yet prove the key to the practical solution of many heretofore obscure problems in pathology and in therapy.

Who always knows the antidote?
The doctor.
Who is the universal goat?
The doctor.
Who's asked to straighten out your kinks?
Who knows your faults and slyly winks,
Taking your blame when you take drinks?
The doctor.

—William F. Kirk.

WHAT THE DRUGGISTS THINK OF DISPENSING DOCTORS

First let us hear from the *N. A. R. D. Journal*, which, in one of its recent issues, hands the following bouquet to the dispensing doctor:

"When one considers the cheap and worthless drugs, the hard, insoluble tablets and the general secret medicines handed out by thousands of dispensing doctors, who know little or nothing of what they are giving and who are immune *by law* from inspection, and the dire results such medication *must* have upon disease, then the Eastland disaster fades into almost utter insignificance."

The following comment upon the preceding, written by Editor Robinson of *The Critic and Guide*, pretty nearly sums up the situation:

"Which, with all due respect, is piffle and rot. I am not a dispensing physician, but such attacks upon dispensing doctors are stupid, and act as a boomerang. Do the high-class manufacturing houses have two different grades of goods, one for the druggist and one for the physician? When a physician orders his supplies from Parke Davis & Co., Mulford & Co., The Abbott Laboratories, and other like firms, does he get "cheap and worthless drugs, hard, insoluble tablets and secret medicines?" Doesn't he get exactly the same quality as the pharmacist does? Isn't it a fact, where there are two or three different grades, the pharmacist often is apt to get the cheaper grade? And, why do doctors know little or nothing of what they are giving? If they know what they prescribe, why do they not know what they give? Is it so hard to count out a dozen pills, tablets or capsules? And, does it require such great technical skill to measure out 4 ounces of a scientifically prepared cough-mixture or mistura rhei et sodæ?

"I am not advocating dispensing by physicians, as a general thing. But, if a fight is to be made upon dispensing by physicians, it is to be done in a square, straightforward manner, and not by silly slanders and stupid lies.

"The slander about the doctor dispensing worthless drugs should be buried forever, so deeply buried that it may never raise its head again. For, it stands to reason that the doctor who wants *results* from his treatment is more *personally* interested in the quality of his drugs than the pharmacist is. If he doesn't want results, he doesn't have to dispense anything. He can give colored water as a placebo."

The simple truth of the matter is, that the druggists who are attacking the dispensing doctor are not particularly concerned about the welfare of the "dear people." It is the welfare of their own pocketbooks they are thinking about—and nothing else. If only they would have the honesty to come out into the open and tell the exact truth, we should respect them a good deal more.

The hypocritical assumption, that the retail druggists are wiser, better, more careful, more skilful, more thoughtful, more humanitarian, more everything that is good than is the dispensing doctor, is both disgusting and absurd.

THE AMERICAN OR THE EUROPEAN IDEAL—WHICH IS HIGHER?

As the child looks up to its parent, so we of the United States have looked up to the East. Europe's literature, her traditions, her monuments, her civilization have been the ideals toward which we have struggled, without higher hopes than of a more or less distant approximation. An "imported" article has commanded respect as a standard. Claims for equality, or even more, for a domestic product have been accepted as the vaporings of enthusiastic patriotism.

With this view Europe fully concurred: America was peopled by an inferior race, whose achievements were really quite creditable to a mongrel race derived from the runaways, the outcasts, the down-and-outs squeezed out of the Old-World countries.

Yet, there were not wanting evidences to show the fallacy of such views, the futility of Europe's assumption of superior culture. From all parts of her domain, there flocked to our shores multitudes of human beings, crude, undeveloped, mere material out of which Americans might in turn be made. One of the most edifying spectacles has been the mental development of many of these people after some years of residence here. The captain of an emigrant vessel once told the writer that many of these people brought their own food for the voyage, although they had paid for the ship's fare, and that of the latter nothing was too bad to be accepted by them; "but," continued the captain, "when they have been in America a few years and return to the old country—look out! they know and demand their rights!"

But, many of these products of Europe's social system are incapable of development. How often we have heard their children say to us: "It's no use, doctor, they are old-country people and you can't do anything with them." But the children! Bright little lads and blithe lasses, they show what the Caucasian can become when he has the chance.

It takes America to give him the chance.

The great war has shattered the card-house of European preeminence and dissipated these illusions. It has been a common custom over there to compare Americans with pigs and to charge us with the exclusive worship of the almighty dollar. Look at the matter now, and it may be seen that Europe's ideal is the warrior, who by force of arms dominates his neighbors, imposes his rule upon them and seizes the product of their labor. The American ideal is peaceful industry—productive work, of which the Dollar is merely the symbol.

True?

Just imagine any American suggesting, that we should annex Canada, Mexico, Cuba, Hayti, merely because we have the power! What would be thought of any politician or party that would make such a robbery—meaning conquest—a plan in the platform?

Now, if such conditions presented themselves in Europe, what would be the result? Let Poland, Belgium, Finland, Schleswig-Holstein, Nice, Savoy, Alsace-Lorraine, Ireland, Tripoli, Tunis, Bosnia reply. Compare the lines of fortresses, guarding the European frontiers, with the ships, guns, and men with which Canada lines the southern bounds of her Dominion, and tell us which is the safer against aggression, and why. If our border-line of more than three thousand miles has not a soldier, not a gun, not a ship on guard against aggression, does it not show that the moral sentiment of peoples who respect the rights of weaker neighbors is a higher development than is the construction of 42-centimeter guns?

The question is, what is the effect of the stasis on the bacteria, and, vice versa, of the bacterial toxins on the stasis? That between them exists a vicious circle has repeatedly been proven. Stasis causes bacterial poisons to be formed; these poisons, again, have a paralyzing effect upon the intestines, and in this way add to the stasis.—E. von Ofenheim.

THE NEW BASIS OF DRUG-THERAPY

How very slowly and ponderously the medical mind doth move! Our views, our theories are rooted deep as the everlasting hills. Only by slow attrition are the old beliefs worn away, and the evershifting sands of the wind-blown dunes may fitly represent the upbuilding of new systems.

The ancient, inherited use of drugs depended upon the belief merely that they cured disease. Nothing more was known of their action, except that, when they were administered to the sick, they got well. How these drugs acted, why they cured, what they really did to the diseased body, was absolutely unknown. The choice and applications of our remedies, with few exceptions, were wholly empirical; and we gave copaiba for gonorrhea, quinine for ague, mercury for syphilis, and so down the materia medica without knowing or, in truth, caring much just what caused the disease or how the drug cured it.

The microscope and the physiologic chemist have opened our eyes to the nature and causation of many maladies; and with this new light there has come a realization that our old faith in drugs was misplaced. We now know that drugs do not cure disease. But, here the bulk of the medical profession stops—doctors drop the drugs. The next step is open to us—and obvious, but we do not take it, by seeking to ascertain what, then, drugs really do. That they do do something, is evident; and we should study what this may be and how it may be intelligently utilized in the treatment of disease. However, we have not taken this step yet, as a profession, although some individuals have made interesting and profitable investigations.

The fundamental error, then, was, the conception of disease as a pathologic entity, for which the drug was a specific. We now

know that few affections are so very simple, but that, rather, most of them are compound results of varying factors. Pulmonary tuberculosis, for example, is not solely of a tuberculous nature, but a compound infection involving now one and now another group of allied organisms, the tubercle-bacillus being the one constant element.

The next error, and one far-reaching in its disastrous effects, was, the contempt with which we viewed affections denominated "functional." Nothing in which a material lesion could not be demonstrated merited our attention. Yet, we had, perforce, to acknowledge that against material lesions we were powerless, and that by no known process could we influence the restoration of a cell that had died. All that seemed left to us was, the removal of the debris, lopping off dead limbs from the parent stem.

Yet, everybody knows that functional disorder has its meaning and its causes and that it generally precedes the development of those material lesions that we have learned to associate with given typical diseases. We may state as a generally admitted truth that, if the art of the physician suffices to cure disease, it must have been exerted during this functional period and before destruction of tissue elements has occurred. It, therefore, is of the utmost importance that we study these functional aberrations and learn to associate them with those maladies of which they form the first stages.

More than this, we should recognize the fact that drugs have the power of influencing disordered function, and it is here that the true application of the materia medica is to be made. We find that drugs possess definite influence, not over the groupages of symptoms we denominate essential diseases, but over the various physiologic functions. We thus separate diseases into their pathologic factors, and by attacking these we conquer our enemies in detail.

We *are* learning. We do not all of us attempt to treat local maladies merely by making local applications, but we seek first to remove the fecal strain, of which the local malady is but the manifestation, at the point of lowest vital resistance, of the general toxemia. We destroy hemic parasites of the animal order by administering arsenic; the amebas, by means of emetine; the spirochetes, with mercury—regardless of the local outbreaks. Some of us believe we can restore the contractility of relaxed connective tissue by feeding berberine, and prescribe this alkaloid whenever this relaxation constitutes a factor in any malady. Some of us also think that we can combat any degeneration at the root of a nerve, when manifested by local lesions in the peripheral distribution of that nerve, by administering zinc phosphide. Anywhere from head to foot herpes zoster gives way promptly to this remedy.

Instead of having exhausted our drug therapy we have scarcely made a beginning at developing its possibilities. We now for the first time have a sure basis from which to work. We know something of the causes of disease. We know something of the physiologic workings of the bodily functions in health and in disease. We have at our command a wealth of resources with which to influence these bodily functions, but much of it is as yet uncertain, crude, badly observed and undigested. Many old errors have been suffered to get into our records and have been transmitted from generation to generation, because nobody has taken the pains to verify or disprove them by experimentation under modern scientific conditions. There is, therefore, much work to be done before drug therapeutics takes her place as one of the exact sciences. Yet, the possibility lies before us —and what a wealth of riches it proffers!

The true way to conquer circumstances is to be a greater circumstance yourself.—Old Saying.

"WATCHFUL WAITING"

The human mind has its limitations, and these sometimes seem distressingly close. Progress being favored by concentrating the energies upon one object, when that has been attained, it seems isolated. The correlation of such a detached fact with its surroundings remains to be established.

It is hard to wait, to be patient while the glacial progress continues, when human lives are failing for the want of what seems to us obvious and readily attainable. Modern science has furnished us real arms of precision in the diagnosing of many maladies. We no longer have to rely upon more or less accurate guessing, to decide whether our patient has syphilis, malaria, tuberculosis, typhoid fever or a fecal toxemia; but, we say, what boots all this if you do not furnish us the arms of precision with which to remedy the conditions recognized?

That there are such weapons, some of us know. We know that these weapons have been produced by the chemist, isolated from remedial plants, and presented to us in such purity that every dose of a given drug exerts

exactly the same power as does every other dose of the same size, when administered under the same conditions. We know that these remedies have been studied by our leading experts, through laboratory tests, animal-experimentation, and in other ways, and their findings have been confirmed by ample clinical applications. Physiology and pathology have progressed, until now we are enabled to place our finger upon the spot where originates any disorder of bodily function; and we have at hand the therapeutic means of removing the causes of disease and correcting the disordered function. Yet—the world waits, the profession lags.

Along about the late seventies, the modern germ-theory was launched. We looked upon it with distrust. We grudgingly admitted that there "might be something in it," but, then, those "crazy enthusiasts" ruined their own argument by "preposterous claims." Why, Laplace said that the cause of irritation must be a living or a chemical irritant! Today, the claims of those enthusiasts seem curiously timid. The germ-theory long ago ceased to be a theory; it has become a fact, solidly established. One forgets that it ever was questioned. Moreover, that theory has opened up a new therapeutic mine, in which we are digging so absorbedly that we have nor eyes nor ears nor thought for aught else. Not until the serum-, vaccine-, opsonin-, bacterin- and allied therapies have been exhausted, shall we have attention to give other fields. This seems to be the present attitude.

Patience! Wait watchfully, meanwhile perfecting our study of the active principles, adapting them to every newly discovered fact in pathology, confirming, correcting, expanding, delimiting the place of each alkaloid. In so doing, we shall help to usher in the new era.

ANTITYPHOID VACCINATION IN FRANCE

Stung by the vigorous attacks upon his method of vaccination against typhoid fever, Prof. H. Vincent replies with equal vigor through the columns of *Le Monde Medical.*

Since Vincent began the use of antityphoid vaccine, 231,462 persons have received this treatment. Before long the number will equal that of those who have received treatment with the heated and cresolated vaccine. Vincent's statistics are based upon official reports made by the French army surgeons, and by others. Many epidemics among the civil population likewise have been quelled. More than 1000 physicians, prefects, mayors, bureaus of hygiene, hospital establishments, and so on, have had recourse to this vaccine; and in a great number of French communities, and in many foreign countries, on the occasion of severe epidemics, this vaccine has conferred an absolute immunity upon those who submitted themselves to being inoculated.

At Saintes, on January 20, 681 men were vaccinated. The cure was rudely tested in epidemics of grave rubeola and even of cerebrospinal meningitis, but no accident followed the vaccinations.

As to tuberculous subjects, experience showed that, instead of awaking or aggravating this malady, the antityphoid vaccination was followed by an improvement of health and an increase of weight, many times considerable. So, also, with children. During the month following the inoculation they grew and their physical development increased. In three cases of tuberculosis, with continuous fever simulating typhoid, defervescence took place within thirty-six hours after the vaccination.

Reports from many armies which have employed the typhoid vaccine show that febrile reaction follows its application in 1 to 1 1-2 percent. This occurs mostly in soldiers after long marches, when fatigued, suffering, tuberculous, malarious, or incubating some infection. Rest and a dose of antipyrin suffice to quell the fever. Ordinarily, troops on the road may be vaccinated without interrupting the march. These febrile cases are infinitely rarer than among children subjected to vaccination against smallpox. That more than 900,000 vaccinations with this vaccine have been made, shows how easily its use may be extended among the people.

WHY NOT THE SYRINGE?

There seems to be, for some reason or other, not only a general disinclination among practitioners to employ the hypodermic route in the administration of remedies, but, rather, an eagerness to avoid it and to adhere to the old-fashioned way of giving them by mouth, even at the expense of effectiveness. This is, indeed, no conjecture on our part, for we are plainly told so, over and over again, by our correspondents. When we recommend, either through these pages or in personal correspondence, certain remedies to be administered hypodermically, we are cer-

tain to receive objections from a goodly proportion, at the same time being asked whether there is not a preparation of the remedy that can be given by the mouth.

What is the explanation of this attitude toward hypodermic medication? Why does the physician so commonly object to administering medicine in this way? Is it sheerly because of the comparative novelty of the method—novelty, we mean, of course, so far as its employment as a general procedure is concerned? Is it simply that the doctor has been accustomed to regard the hypodermic syringe as an emengency-agent and finds it difficult to bring himself to use it as an agent of choice? If so, that hardly is sufficient justification for refusing to employ it when it *is* the method of choice. Many procedures which in former days were regarded as emergency-measures have become, in these latter days of improved knowledge and technic, deliberate measures of choice.

Or, is it that the physician entertains some vague misgivings concerning the possible risks of administering a drug under the skin or, perhaps, has some genuine scruple, on what seem to him to be real grounds?

Personally, we do not see what valid indictment can be brought against the hypodermic procedure, provided, of course, that the drug be one which lends itself to this mode of administration and that the preparation be suitable for it. And, if any practitioner thinks that he has a genuine cause for quarrel with it, we are sure that a little investigation of the matter will convince him that his objections are unfounded.

Possibly the reason is to be sought in the attitude of the patient, rather than in that of the doctor. It may be that the physician finds it a little difficult, especially in the rural communities, where people have not yet been educated to it, to persuade his patients to submit to hypodermic injections, principally because they, too, have been accustomed to associate the needle with unpleasant contingencies. But this, again, hardly is justification enough for the nonuse of the method whenever it is indicated. It is the business of the physician to educate the public to the acceptance of those measures which the progress of his science is developing for their best interests.

Suppose the patient *is* disposed to shrink from the hypodermic syringe; so he or she may also be inclined to balk at many modern procedures, which are, nevertheless, necessary and beneficial. Most women will shrink from a physical examination; but no conscientious physician will, for that reason, attempt a pelvic diagnosis without making an examination. Indeed, the doctor has educated the female contingent of his clientele to the point where almost every woman who seeks relief for pelvic troubles expects a physical examination. He must do the same thing, then, with respect to every necessary procedure. Certainly, he must not allow himself to be governed by the patient's unreasoning sensibilities and obsessions.

As a matter of fact, the hypodermic method, in our opinion, is absolutely the method of choice; that is to say, the most desirable method to employ whenever it can be employed; and almost all patients who become accustomed to it soon prefer it. The very negligible discomfort that attends its performance is not to be compared with the disturbances which often accompany the introduction of the remedy into the gastrointestinal tract. But we do not go so far as to urge its employment on that broad basis; and, of course, there are many remedies as well as many therapeutic purposes that do not admit of hypodermic administration.

The point is, that with certain remedies the hypodermic route is so much more effective and successful than that by mouth that it is the physician's duty to resort to it, unless the patient absolutely declines it against the doctor's emphatic advice; and it is this point that we wish to urge.

Emetine is a conspicuous example. One of the prime therapeutic advantages of emetine is, that by the hypodermic method we can give a sufficient dose of the actual amebicidal principle without causing the gastrointestinal disturbances of the drug. Yet, there is a general disposition among physicians, and still more general among dentists, to beat all around the bush in an attempt to evade the hypodermic administration of emetine. We have tried to suggest some possible reasons for this attitude. Perhaps we have not succeeded in hitting upon the real explanation. But, whatever the reason, or reasons, may be, none of them, nor all of them together, ought to weigh with the conscientious physician against the advantages of the method whenever those advantages are undoubted.

Leading Artieles

Gastritis, and Its Management

By A. L. Benedict, A. M., M. D., Buffalo, New York

WITHOUT venturing to enter into a critical study of the pathology of gastritis or to discuss the appropriateness of the synonym gastric catarrh, it may be pointed out, that the socalled mucosa is thicker than for most organs having an epithelial surface indirectly communicating with the outer world, and that it consists largely of glandular elements of specific secretory function, so that it may properly be considered as the parenchyma of the stomach. Consequently, inflammatory lesions of the stomach lining must be conceived of as combining the factors illustrated by bronchitis, on the one hand, and by nephritis, on the other.

Acute Gastritis

Acute gastritis should best be limited to the effects of corrosive poisoning, concentrated alcohol, extreme degrees of heat, and such like. The stages of acute hyperemia and cloudy swelling are rapidly passed and frequently the strictly inflammatory stage is superseded by ulceration and necrosis of greater or less degree.

While for the most part such conditions are attended by pain, vomiting, and more or less general febrile reaction, and while, furthermore, the direct evidences of irritation and secretion of mucus, shedding of epithelium, abatement of specific secretion, hemorrhage, and so on, may be found in the stomach contents and feces, it must be confessed that the diagnosis rests largely upon induction from cases previously studied at necropsy or at operation, as well as upon the knowledge of an adequate cause.

Both diagnosis and the conception of the pathology are complicated by the fact that the large size of the stomach as well as the differences in accessibility of different portions render it possible for the condition to vary from almost the normal to the most disastrous ultimate stages of the inflammatory and corrosive process. Even in health—at least considered from the practical standpoint—there may be mucous secretion in considerable amount from some small area subjected to very trivial irritation; there is always more or less shedding of epithelium; often from vomiting alone, some hemorrhage; and from some sharp food ingredient or the scraping of the eye of the stomach-tube or forcible aspiration, even relatively deep glandular elements may be brought to view. Conversely, with a degree of parenchymatous inflammation sufficient to put a stop to the glandular function in any organ, some portion of the stomach may furnish more or less active secretion.

Without discussing *the treatment* from the toxicologic standpoint or from that of the general systemic shock received, let us start with the indications after the emergency has passed.

For a week or so, the stomach should be at rest as much as possible. For a day or two at least it is unnecessary to nourish, and, moreover, desirable to leave the intestinal evacuations as little affected as possible by any factor aside from the gastric lesion, so that the feces may be examined for diagnostic and prognostic purposes. Water may be given by hypodermoclysis, enteroclysis or, often, even by the stomach; for, unless there is danger of perforation, there is a positive indication to have lavage to this degree. Later, nutrient enemata, oil inunctions, and hypodermoclysis with dextrose-salt solutions may be employed.

Local sedation and healing of the lesion may be attempted along several lines. Somewhat analogous to dry dressings are bismuth subcarbonate, kaolin, and charcoal, the last-named being somewhat detoxicating. Owing to the susceptibility of the inflamed stomach to all forms of irritation, care should be taken to secure preparations chemically pure and of a high degree of mechanic subdivision.

Inflamed surfaces are commonly regarded as giving off an acid and acrid secretion. The writer is somewhat skeptic as to the former quality in general, although, for the stomach, the specific hydrochloric-acid secretion should be kept in abeyance; hence, magnesia and lime-water are indicated, according to the state existing or desired for the bowels. Mucilaginous and gelatinous mixtures are advised for their soothing effect. Gelatin is especially indicated if there is hemorrhage; still, there is some danger of exciting secretory activity by such demulcents. Pure mineral oil is, perhaps, the least prone to excite secretion, is the best vehicle for the powders mentioned, and, as it is absolutely indigestible and aseptic if not antiseptic, it is the preferable soothing application. Local anesthetics may be resorted to as indicated; with due reference, of course, to dosage. It is questionable whether ice is of value. As ordinarily administered, in small bits, the ice becomes luke-warm water almost as soon as the stomach is reached—sometimes even before it reaches the stomach at all. If there really is an indication for local cold, it is better to give ice water in 100-cubic-centimeter drafts.

Subacute Gastritis

Subacute gastritis is a term applying to milder lesions resulting from the same poisons mentioned under acute gastritis when taken in diluted form, from alcohol, and from ingesta irritating by reason of alternations of heat and cold, the presence of active principles inadequate to produce acute inflammation (such as the volatile oils of spices), microogranisms, and perhaps the general effects of chilling.

Alcoholic gastritis may assume almost the degree of the acuteness of that caused by corrosive poisoning; indeed, there is no sharp line of demarcation and no unanimity as to the application of the two terms. Whether gastritis, like coryza and other respiratory catarrhs, occurs as the result of "taking cold" is rather doubtful. On account of the well-known conflict of authority on this point, the writer has tried to secure clinical evidence; however, in view of the functional disturbances liable to follow chill (already discussed) and the difficulty of inferring pathologic conditions from the distress, nausea, vomiting, and evidences of lack of digestion, it has not been possible to collect accurate data.

In particular, it is practically impossible to distinguish accurately the origin of mucus in the stomach contents or vomitus, despite the easy theoretic descriptions of such differences, in regard to the pharynx, esophagus, and stomach. This much may be said, however: in hepatic sclerosis, with resultant chronic gastritis, exacerbations apparently analogous to coryza do occur from chill; and, further, microscopic examination of stomach contents or of the secretion of the jejune stomach, with reference to mucus, cellular detritus, and so on, make it appear that mild grades of gastritis occur quite constantly in various conditions commonly regarded as functional. The hope of connecting such microscopic pictures with definite disturbances of secretion or with organic lesions has not been fulfilled, probably because the ordinary indiscretions of diet produce localized gastritis of mild grade quite regularly, and because the stomach, the same as every other epithelium-lined organ, is constantly shedding degenerated cells, while the lack of regularity in the association of microscopic findings and chemic and motor tests probably is to be explained on the same basis.

The *treatment* of subacute gastritis is along the same lines as that of the acute, but the indications for suspension of gastric feeding rarely are present; and since (with the exception of complicated cases) erosion, hemorrhage, and danger of perforation are excluded, it usually suffices to limit the diet merely to secure a comparatively bland and easily digested mass.

Instead of sedation, as a rule a more or less astringent effect is indicated; so that, although mineral oil and bismuth may be prescribed, menthol also is indicated for stimulating the local circulation, while frequently the bismuth is to be chosen in the form of the subgallate rather than the carbonate.

Organic preparations of silver (in solution) may be employed to wash the jejune stomach, making sure to rid the organ of it so as to prevent any possible danger of argyria. While the tube is in the stomach, the patient should lie in succession on the abdomen, the back, and sides, in order to insure reaching all parts of the viscus. This method is superior to the administration of silver in pills or to the use of other mineral and the various vegetable astringents.

In cases of excess of hydrochloric acid, this hyperchlorhydria should be combated. So, too, organic acid fermentation should be counteracted. Alkalis are also indicated, to reduce even a normal hydrochloric acid secre-

tion if the local condition of the gastric wall overbalances the indication for efficient digestion at the time; and it is even advisable to be cautious about relieving a hypochlorhydria if there is reason to consider it associated with definite gastritis of this grade. The old fashioned administration of lime-water with milk has its obvious rational explanation and should not be forgotten.

Chronic Gastritis

The marked differences between acute (including subacute) and gradually developing chronic inflammation of epithelium-covered surfaces, the question whether the latter is not a degenerative rather than a strictly inflammatory process, and the well-described pathologic details of the latter should be borne in mind.

Yet, when all is said, chronic gastritis is not so easy of exact diagnosis, in the sense of objective demonstration short of direct methods of inspection under the microscope, as is commonly believed. As in the case of the kidney, the degenerative changes theoretically characteristic of epithelium in a state of chronic inflammation are reached, in each individual cell, within a few days. While in the case of the kidney normal exfoliation is so slight in proportion to the total amount of urine as scarcely to be detected in observations of sediment, and, while one may distinguish various characteristics of casts—including their diameter, number of attached cells, and proportionate occurrences of early and late degenerative phenomena—in the stomach contents obtained in the jejune state, similar differences are scarcely conceivable.

While the microscopic appearances are interesting and, from many different standpoints, valuable, they scarcely afford a basis for diagnosis with any degree of certainty, aside from other circumstances, and the problems are so intricate that it is thought best not to enter into them. It is often implied, although no one would so formally state, that the degree and extent of the inflammatory process can be determined from the amount of mucus. Nor, as already has been intimated, can the gastric, pharyngeal or esophageal origin of the mucus always be differentiated. Nevertheless, when the stomach contents and vomitus, especially jejune, contain considerable amounts of mucus which are more or less discrete and not in the characteristic strings of esophageal mucus, we are aided in making the diagnosis of chronic gastritis.

While a gradually developing gastritis, with or without the initiative of an acute or subacute attack, tends to suppress secretion, the latter may persist for a long time, and there may be concomitant factors producing hyperchlorhydria. Whether there is a distinct separation of chronic gastritis into acid and subacid types, except in this sense, the writer has never been able to determine.

One logical, and frequent, cause of chronic gastritis is venous hyperemia due to obstruction of the portal circulation, notably by hepatic sclerosis. Some years ago, the writer propounded to himself the question whether a distinction could be made between this type of backpressure gastritis and other chronic forms resulting from local irritation by ingesta, or the repeated action of other factors, for instance the effect of irritants developed in ingesta by fermentation, the cumulation of "taking cold" in the stomach as a *locus minoris resistentiæ*, and so on.

This question has not been satisfactorily answered, because the same factors tend to produce hepatic sclerosis, which may also, perhaps, be considered an inevitable senile process. It is practically impossible to diagnose incipient hepatic sclerosis with precision, so that, while, on the one hand, there may be grouped many cases of chronic gastritis in which hepatic sclerosis is indubitable, the writer has never been able to collate cases in which hepatic sclerosis could be absolutely excluded. Even necropsy studies do not enable one to answer this question, since a large experience with postmortem material is almost never associated with ample opportunities for studying the clinical aspects of the cases, while, moreover, postmortem changes in the stomach occur with great rapidity. It may also be said that the greater proportion of cases of chronic gastritis are associated with fairly well-marked indications of hepatic sclerosis.

The symptoms of chronic gastritis are not uniform. On the whole, however, there is anorexia; disturbance of secretion; generally hypochlorhydria or achlorhydria; considerable organic fermentation and gas formation; moderate dilatation; diminution of motor power, with, however, relaxation of the pylorus, so that there is stagnation, not of the entire contents, but of residue; considerable shedding of degenerated cells; much mucus; more or less vomiting; emaciation.

It is very easy to make a superficial diagnosis of chronic gastritis. It is very difficult to make an absolutely scientific demonstration of this conception in a given case, and

in particular, to prove an organic lesion as well as that the disorder is not functional. For all that, in the majority of instances, the diagnosis can be made, after a reasonable period of observation, with sufficient accuracy for practical purposes.

Diet demands reasonable supervision, especially with a view to obviating easily avoidable aggravations from irregular meals, overeating, and the like. It is also well to exclude from the dietary everything, beyond a small amount, of a nonnutritious nature, especially such foods as consist of leaves, stalks, and so on. As to proteid, carbohydrate, and fat articles, there is no special indication or contraindication for departing from the average well-balanced dietary; although, of course, actual experience pointing to lack of utilization of any of these groups or disagreement of any special foodstuff must be heeded. The stimulus of heat, tastiness, and special likes constitute a valuable assistant. In severe cases, we must have recourse to milk, eggs, gruels, junket, peptonized milk, and so on, but in cases of average severity the ordinary diet, in discretion, will be best.

Hydrochloric acid is usually indicated, and there is not here, as in the acute and subacute forms, danger of irritation. Whether the stomach becomes capable of secreting the needful acid, or not, is a fairly dependable guide in diagnosis between a functional and an organic condition.

Strychnine is indicated to stimulate the gastric secretion. Artificial digestants are frequently needed to supplement natural digestion, or merely to stimulate it.

Hormone therapy sometimes gives good results—apparently. As this method is in its infancy and involves a choice of commercial preparations, it will not be discussed in detail.

Local treatment of the stomach is along the same lines as laid down for subacute gastritis; but, in addition, the writer has seen considerable benefit from spraying the jejune—clean and, if necessary, washed—stomach with a 5- to 10-percent solution of menthol in pure mineral oil, using an atomizer pump that holds a definite amount of air, say, 100 Cc., and being careful not to overinflate. It is not necessary to use an endogastric atomizer-tip, as the solution forms a heavy spray that not only will carry to the stomach, but may be seen issuing from the mouth and nose after escaping around the stomach-tube. As a rule, not more than 500 Cc. should be introduced at once, and, if the spray does not escape freely around or through the tube, the tube should be moved up or down so as to break through the obstructing water trap in the stomach.

The Letters of Doctor Leonidas Playfair

Addressed to a Young Man Just Entering Practice

By A. H. P. Leuf, M. D., Philadelphia, Pennsylvania

[*Continued from October issue, page 942.*]

Consultation-Fees

CONSULTATION-FEES should always be considerably larger than your ordinary fee. For this, there are several reasons, some of which I will mention. First of all, in consultations, more time is consumed. Next, you either are reviewing, or passing judgment upon, another man's work, or this is to be done upon yours. Then, these engagements usually take place at a stipulated time, observance of which generally entails something of a sacrifice. Furthermore, you are consulted after others have failed to give satisfaction, and your opinion would not be sought unless it were valued unusually. Lastly, because the patient expects to pay more, he would not be as well satisfied if you did not make an uncommon charge.

Again, you may be called upon to assist another physician in a difficult case, say, spasms, confinement, or accident, for which service you should also exact more than the usual compensation. Such calls generally come in a hurry; they take you from your other work, without regard to your own wishes or the sacrifices you may have to make; in other words, they are imperative. Moreover, you place yourself in a position subordinate to another physician, who is always your competitor in the public eye, and not your confrere, as he should be considered. This consideration should be reckoned with.

Emergency-Calls

Then there are the socalled emergency-calls. You are requested to go somewhere in the greatest possible hurry, to attend someone not among your patrons, often utter strangers. Here, too, it is customary to exact a double charge. In instances of this kind you will be placed in one of the most delicate and difficult positions in which a physician can find himself. You are not likely to be retained in the case, particularly if you act honestly with who ever may be the ordinary medical attendant, for it will be your duty to learn who the latter is and recommend that he be sent for to take charge. It is your distinct duty to insist upon this, for that is what you should want him to do under reversed circumstances and with a desirable patient. Of course, if this "emergency-patient" proves an undesirable person, it is wise not to be further encumbered with him. Obviously, on occasions of this kind, when ready neighbors run to offer their aid, it would come in poor grace for you to insist upon a double charge for rendering a temporary emergency-service; one, moreover, that is either in your immediate neighborhood or in close proximity to where you may have been at the time (if that be at your residence or office), else you would not have been summoned.

As I have said, what to do under such circumstances requires the nicest kind of judgment. Under the law, you have a perfect right to exact proper payment. As a man, neighbor, or citizen, you hardly can afford to be considered unfeeling, ungracious, mercenary. As a physician depending upon the practice of his profession for a livelihood, you are, necessarily, compelled to charge adequately for relieving the misfortunes of your fellow men, and you do this without danger of dissent. But in these irregular calls the circumstances are so unusual, the question of value is so dependent upon the conditions existing at the time, that each case must be decided upon its own merits.

My own experience has been that, if services of this kind are not paid for as soon as rendered, they remain unpaid. Subsequent attempts to collect are met with opposition and even vilification. It has become my practice, therefore, to be "too busy" to respond to calls of this nature, if such pretext is possible, and thus avoid going if the person in question is not one of my patients; but when responding to the call can not be evaded, for any of the many reasons that readily come to mind, it is my custom cheerfully to do the work gratuitously. Make no demand and refuse then and there to name a price for such services, even when asked to do so. When about to leave suggest, instead, that the folks send for their own doctor, but that you would be pleased to have them report to you how the case progresses. They rarely will come to see you; should they call later, however, and insist upon making a payment, let them do so, of course. In taking this course, you avoid making enemies, while it gives the patient an opportunity to compensate you for the work, if he desires to do so.

Compensation in Venereal Diseases

There is an almost universal tendency—I might say it is the common practice—to charge patients afflicted with venereal disease more than others for similar service, and, also, to demand payment in advance. This is "justified" (?) on the ground that these maladies are contracted in a deliberate way, are self-inflicted, the sufferers (men, ordinarily) being held responsible for their condition.

Now, manifestly, no individual in the quest of pleasure and gratification will fly in the face of a positive attack of one of the venereal diseases; he would, most certainly, defer the gratification of his desires to a more auspicious, less dangerful, opportunity.

Venereal diseases are as much accidents as are most diseases and injuries. They should be so considered in all fairness. I do not agree with those who say that a venereal patient has not the same claim upon our sympathy as have others. A far better illustration of self-inflicted disease is the gouty individual who inevitably suffers from acute indigestion or an attack of the gout after excessive dietary or bibulous indulgence. How many times do we hear such individuals say that they are going to a banquet and intend to enjoy themselves immensely, although they know full well that they will have to pay the usual penalty afterward? So with the individual who, on the morning of the first day of January, puts in operation a plan, systematically devised weeks before, with the fixed purpose of calling from house to house, drinking wines and liquors in each place, until intoxication finally becomes so marked that there is no subsequent recollection of the later visits. Pigs of this stamp certainly are not deserving of sympathy, and well may be left to suffer the consequences of their folly. Likewise are those foolish persons undeserving of commiseration who go to an all-night dance, knowing, from past experience, the inevitable result.

Large Fees and Excessive Fees

There is such wide latitude in fees that it is difficult to be specific in discussing the matter without occasionally appearing unjust. It is advisable, therefore, to lay down only general principles that are safely applicable under most conditions, such, for instance, as a definition or explanation of what is an excessive fee.

An excessive fee, it may be said, is any charge that the patient either positively is unable to pay, or cannot do so without unjustifiable sacrifice. What would be a nominal charge for one individual might be absolutely beyond the means of another. Thus, I knew of a middle-aged farmer who had a large fatty growth upon the right side of his chest. This tumor had gradually enlarged for years, until it was impossible for him to more than half lower his arm on that side; about the same as if he had an ordinary derby-hat between his arm and chest-wall. He finally visited a well-known surgeon of pronounced religious profession, who was fond of speaking to gatherings of students upon biblical subjects every Sunday. He demanded $1000 for removing this simple subcutaneus growth, one of the easiest things to do in surgery. The man had saved $700, the fruit of years of hard labor, and willingly offered this to the "great" surgeon in lieu of the sum asked. It was refused. The full amount was insisted upon, and the suggestion made that he borrow the additional $300, to make up the required one thousand.

A student who knew of this counseled the patient to enter the common ward of the hospital. This he did, and there was relieved of his tumor by another surgeon, one of the same staff. The grasping professor was much chagrined to see the patient abed in the hospital several days afterward. This doctor's inconsistency with regard to his professed christianity not only cost him the loss of what was an excessive fee, one that no honest man could insist upon taking under the circumstances—even if $700 proffered had not represented the savings of years of hard labor—but it actually prevented some other, fairer, man from earning a reasonable fee.

It is said that a San Francisco surgeon received $30,000 from one woman patient for one operation and twenty-one days' attention. Doctor Tiffany, of Baltimore, was paid $10,000 for a single operation. Doctor Chambers, of the same city, for attention to a stab-wound, received $5000. Dr. C. T. Parks, of Chicago, got $10,500, and Dr. A. C. Bernays, of St. Louis, $5000, for a single operation. These were all large fees, extremely large, indeed, but probably not excessive in a single instance, because perfectly easy to pay for those who gave the money.

On the other hand, a very moderate charge may at times become a decidedly excessive one. Thus, for instance, a $100-fee for an operation for appendicitis is a moderate charge, and, yet, this sum would be far beyond the means of many individuals who require this help. Even a charge of $1.00 a visit for one sick in bed with pneumonia and complications for six or eight weeks, who often must be seen twice and occasionally three times in a single day, would be excessive in the case of a working-man averaging but $10.00 or $12.00 dollars a week, with a wife and several small children to support. More especially is this so if such a man belongs to no sick-benefit association, and has been deprived of all income for this entire period, during which time bills have been growing, in all directions, for rent and sustenance. It is only fair that the doctor should discount his bill more than the tradesman under such circumstances, for in this particular instance the doctor's outlay is so trivial in proportion to his total charge, as compared with that of trades-people, that the equity of this proposition cannot be controverted.

Vaccinations and Revaccinating

Some men make the needless mistake of gratuitously vaccinating children whom they have delivered. There is no more reason why this should be done for nothing than that a circumcision, or attendance upon a case of measles, or any other thing you do as a physician, should be done gratis. Nor is it proper for you to agree to do a revaccination, whether primary or secondary, except for the usual fee. You no more guarantee a successful "take" than you do the successful termination of any professional work. Many people are under the impression that, if the first vacicnation does not "take," the doctor should revaccinate free of charge, or at least at a reduced figure. This is as senseless and as vaporous as to require you to make all but the first visit upon a case of cholera morbus gratis, because the patient was not cured then.

There are very few things that tend so much to belittle the profession and discredit a physician's work as for him, tacitly or otherwise, obligating himself to do subsequent work free of charge if not successful in the first instance. You have a right to work

for nothing, if you choose—and all of us do—but gratuitous services should not be conceded as a right of the patient.

I quote the following from "The Physician Himself":

"You should, of course, make no extra charge for repeated primary vaccinations, till they "take," no matter how long the interval between the trials; also, make but one charge for any person who has revaccination attempted, no matter how often, if during the same epidemic or smallpox-scare."

This statement is an example of what you should not do. To follow this advice, is to invite no end of trouble and bother. It is far better to refuse to do any vaccinating. Some will not "take" after many repeated trials. To do this, for instance, for $1.00, with the virus costing at least 15 cents, leaves you but 85 cents for time and judgment. The usual supply of medicine to a patient costs less. If the patient returns several times to be revaccinated, you lose time and money and cheapen yourself. The patient holds you responsible for the failures, in which he is justified by implication, for you suggest this interpretation by undertaking to repeat the work free of charge until successful. These remarks apply alike to primary or secondary vaccinations.

You have a right to charge for all work of a professional nature. Not to do so is to render services gratis, which should be done only where it is justified by necessity and so understood. To do as is advised in the quotation cited, only can serve to cheapen you and the profession in the public estimation. Nor are people in larger cities justified in asking such a sacrifice of a physician when they can have public vaccinators do the work equally as well free of cost. It is my habit, when patients are unreasonable in this regard, to refer them to the public vaccinators, where they need not ask for a reduction in the charge, but can have the work done free.

Credits

Never give credit to an office patient unless you are satisfied that he is good. Should you be in doubt, and, yet, trust him, enter his name and address upon a book provided for that purpose, or even upon a slip of paper, which you should carefully lay away in his presence. But this will not be necessary if you keep a history of his case, which should be headed by this information.

Special services requiring exceptional fees should be charged up immediately, so that the exact amount agreed upon or implied be not forgotten. This has also the additional advantage of finding you prepared to tell a patient the amount of his indebtedness, if asked for before the bill is rendered. This inspires him with the conviction that, in your own mind, your charge is justified, because of its having already been entered up against him, and the fact that you give him the statement without hesitation or other delay. It proves to him, also, that the amount is a settled or customary one with you, because not left open for future consideration.

Do not give credit in chronic cases, except you are amply secured in some satisfactory manner, or your patient is good financially, by which latter I mean that he has assets from which an indebtedness might be collected by legal process. It also is well, if you are requested to give credit, to make your business arrangements at the first interview, and before you consider the case from a medical standpoint. With those with whom you, nevertheless, enter upon a credit arrangement without this assurance, it is well to secure an acknowledgement of their indebtedness by the signing of a note or as many notes as may be required from time to time, in order to avoid the after-need of proving your claim, should it be disputed.

(To be continued.)

Cellular Rebellion

Being Chapter Five in "Lens, Reagent & Co."

By B. G. R. Williams, M. D., Paris, Illinois

Director of The Wabash Valley Medical Laboratory

A FARMER about 48 years of age noticed that he had "kernals" in his neck. For a time, he dismissed the matter from his mind, but, after a few weeks, a great uneasiness drove him to his physician—the indurations were growing rapidly and had become tender.

This doctor had read, in Matthew, of the wise man who built his house upon the rock, and elsewhere he had read of the foolish doctor who built his diagnosis upon guesswork. The farmer was prominent in the neighborhood and was wealthy. Success would mean reputation plus fee; but, then, the doctor had planned to take a joy-ride that afternoon and—

The patient used up the can of iodine-ointment given him by the doctor and in a week called again, as directed. The man's glands were enlarging rapidly, and he complained of shooting pains. Again this doctor recalled the Bible story. He palpated the glands. The patient winced, and the doctor recalled that the enlargements were painful. That reminded him. He attempted to take his mind from the new ditching project for his farm, and then began to search through a pile of catalogs of automobile-supplies. Finally he came across a pamphlet presented to him by the Quadruple Iodides Company. On the cover was the legend, "Pain as a Symptom—Rapid Reference for Busy Doctors." He searched in this for fifteen minutes, but did not seem to find what he wanted. Then he walked over to his book-case. Finding that he had lost the key, he pried the case open with a tire-tool and dug out his Osler.

It Never Happens!

Dear reader, I beg of you to remember that this is a story and not an actual happening; for, you know, such things as this never do happen. A certain droll person once described a physician's office about as follows: "An old well of a place, with a toad singing in the corner. If there are any other corners, one is furnished with a good safe, on top of which are piled poultry journals and pamphlets on mushroom culture; another, with a saddle and some spark-plugs; while the fourth is provided with a doorway to permit the entrance and exit of patients."

After looking at the index of the book in hand, our friend, the doctor, spoke up: "Well, Jake, you have a very unusual disease, and I think that we had better have Professor Keencutter come down here tomorrow and remove these tubercular glands. I shall telephone him tonight. Have your wife boil up plenty of water in the morning. We shall need some clean towels, too, and—

"Wait a minute, there, Doc," broke in Jake, "I don't know so much about that. Doctor Bhunk, who advertises in *The Gazette*, claims that he can take them kernals out with a plaster, and I don't much hanker after this knife business."

Thereupon the examination was concluded with a short sermon on quacksalvers and charlatans, and the patient made a getaway.

Jake now went to see Doctor Bhunk, who would do the work, and his charge would be $500. He hastened to explain, however, that his unrivaled plaster had everything backed off the boards and that other doctors would gladly pay a thousand dollars just to know how it was made. The farmer was almost persuaded to let him do the job, but decided to stick it out a bit longer before playing the game of five-hundred. So, next, he consulted the other village doctor.

Doctor No. 2 was mighty pleased to get this case from No. 1 and made a very thorough examination—meaning, a prolonged palpation. At length, after giving the impression of "You should have come to me first, but I can cure you, anyway," he advised the farmer that his glands were not tubercular, but that he had Hodgkin's disease, and that medicine was needed, not surgery. The lot of arsenic which Jake was made to swallow puffed his eyelids and gave him a bad diarrhea; but it had no effect upon the glandular enlargements. The iodides then substituted likewise failed.

What the Young Doctor Did

There was a third doctor in this country town. He was a young man, hadn't been there long, and Jake, upon a whim, consulted

him just before he was going to take the train to see Bhunk about that plaster.

This young doctor was interested in getting the fees.

This young doctor was interested in establishing a reputation.

This young doctor was *interested in the case itself and hoped to make an accurate diagnosis.*

The simple white-cell count ruled out leukemia, a diagnosis hinted at by doctor No. 2. A differential study showed that there was no mononucleosis; and while this did not prove that there was no tuberculosis, it was a strong argument against it. A complement-fixation test ruled out syphilis, a less probable possibility.

Jake got interested. The careful study of his condition raised his confidence, and upon the strength of it the visit to Bhunk was deferred. He also readily agreed to a diagnostic section of one of the smaller glands.

In the laboratory, hurried sections showed that the tissue was not necrotic, but cellular, and that these cells were not of lymphoid derivation. A close study showed that these cells were vegetative and doubtless came from cells lining capillaries. It may be remarked that a diagnosis of endothelioma spells a better chance than carcinoma. Jake and his friends were convinced, and, so, the growths were removed.

Recall that operation was the advice offered by doctor No. 1. But Jake was not a fool, and advice meant more to him when backed by a microscope than by a toad, safe, and saddle. It always works out this way.

Yes, Jake died, but not so quickly and not so ingloriously. Perhaps, if there had been a diagnosis rather than a joy-ride at the outset, Jake would still be working with his corn and potatoes.

Blood Examinations in Glandular Enlargement

In cases of glandular enlargement or conditions simulating it, I venture to say that the blood should be examined first of all as to actual anemia, hemoglobinemia, leukemia, and tuberculous mononucleosis. In some cases, it may be advisable to test for syphilis or cancer, by serum reactions. In all instances where the diagnosis is not clear, diagnostic sections should be made. It is the same in case of suspicious lesions of the cervix and with all tumors that may be reached with ease. Frequently the patient will permit this when he will not stand for complete removal. The former may usually be done under local anesthesia, the latter usually means etherization. Questioned closely, he will acknowledge that he fears the ether more than the knife.

I have written concerning the value of diagnostic sections, in a former CLINIC, and I will not repeat these recommendations here. To men who do their own tissue-work, I would suggest the use of contrast-reference mounts to control and back up their final opinions. These will tell better than book-pictures just what we are dealing with. I should be pleased to send directions for making these mounts to any who are interested, providing return postage is enclosed. Most men, however, send their tissues to laboratories, and place the responsibility upon the other man, or at least part of the responsibility, even though they do some tissue-work themselves.

In securing the tissue, local anesthesia is not always necessary. This applies especially to suspicious lesions of the skin and the cervix uteri. In case of removal of glands, local anesthesia usually is indicated, the choice of anesthetic depending upon the location of the gland, its size, and the "nerve" of the patient.

We have no very good proof (though you encounter the statement) that removal of a small bit of malignant tumor will hasten its growth or hasten metastases. However, it is best, for theoretical reasons, not to extend the incision into normal tissues; and, if the growth is malignant and can be removed, this should be done as soon as the diagnosis is made. If we thus can tell the patient that the growth certainly is cancer, he is more likely to submit to operation, than where it is evident that we are merely guessing.

This concludes this series of articles. I desire to thank the readers for their kind inquiries and also to thank the editor for his kind treatment. The subscribers of this journal may assure themselves that CLINICAL MEDICINE values as highly articles upon diagnostic subjects as it does contributions upon therapeutics. I have often repeated the advice of Austin Flint, and you will pardon me if I include it once more in this final message: "*How is it possible to bring to bear upon a case of disease established principles of treatment until the character and seat of the disease are ascertained?*"

Adonidin: A Useful Heart Remedy

By H. Hamilton Redfield, M. D., Chicago, Illinois

EDITORIAL NOTE.—This brief article is one of a series upon important vegetable remedies that have been contributed to this journal by Doctor Redfield from time to time. You should read them all.

Cerrello, who studied adonis vernalis, was able to obtain from this plant a glucoside, to which he gave the name adonidin. This glucoside, which occurs in small amounts only, is a nonnitrogenous, colorless, odorless, and extremely bitter amorphous powder, and is very energetic.

Physiological Action

From his close clinical study of the physiological action of adonis, Doctor Budnow concludes that the active principle adonidin exerts an exciting influence upon the cardio-inhibitory mechanism at the central end, and that its further action is that of a paralyzer of the peripheral end of the vagus. He also concludes that adonidin excites the accelerator nerves, sometimes directly (through the blood pressure), sometimes indirectly; that at the moment of the vagal paralysis the two systems of cardiac innervation interfere; that at the termination of the toxic effect paralysis of the motor nerves of the heart occurs; that after death there is either complete loss of excitability or a marked weakening of the cardiac muscle.

Durand sums up his observations as follows: In doses of 1-3 grain, adonidin increases arterial tension, regulates the heart beat, diminishes the frequency of the pulse, and increases the force of the cardiac contractions; acts rapidly, its effects being present only during administration; increases diuresis; is well tolerated, but in increased dosage does irritate the stomach.

Lublinski and Huchard both report a gastrointestinal effect from adonidin, so severe in its nature as to require its withdrawal.

Blackwood classes adonidin as follows: "This agent is a cardiac and arterial stimulant and diuretic. By its direct action on the heart, it increases the force of the cardiac contractions, cyanosis gradually disappears, while dyspnea is less marked. No cumulative effects ever were noticed."

Scudder reports his observation in a few cases and summarizes by saying: "I have used it singly and have watched its action carefully. From what I have seen, I have hopes that it will surpass digitalis as a cardiac tonic."

Potter states that adonidin has an action similar to that of digitalis, but that it acts much more rapidly and energetically, and is devoid of any cumulative action. This statement is fully borne out by the experience of the author, who has come to look upon it as far superior to digitalin in all conditions calling for the latter drug. He has employed it in upward of three hundred cases of pneumonia as a substitute for digitalin, and has to see the first instance wherein adonidin gave any evidence of cumulative or gastrointestinal action. The same observations apply to numerous cardiac and renal cases in which digitalin was the indicated remedy and adonidin was substituted. It acts much more rapidly than digitalin, is considerably stronger and devoid of any of the unpleasant effects of the latter drug.

Therapeutics

Adonidin is the indicated remedy especially in the following conditions, namely:

The tension of the arterial system is below par, there is a suppression of or interference with the renal function, with resultant anasarca, and cardiac dropsy is present. The urine is scanty; the amount of urea is decreased; pulse is irregular, both as regards rate and force; dyspnea is marked.

A frequent accompaniment of these conditions is headache, dull and throbbing in nature, the pain extending from the occiput around the temples and across the eyes.

Adonidin should be studied in ascites, anasarca and hydrothorax, when the underlying causative factor is a chronic dilatation of the heart or valvular disease.

Cases of heart failure secondary to an alteration or suspension of, or interference with, the normal function of the kidneys should be studied in connection with adonidin.

It should be given full consideration in mitral or aortic regurgitation, when characterized by the typical headache, which, in conjunction with the other symptoms, are indicative of adonidin. In these cases, there is marked pain in the precordial region and the blood-vessels throb and pulsate. In interstitial myocarditis characterized by marked irregularity of the heart's action, extreme

dyspnea, and dropsy, it should be tried out. A sense of increased intracardiac pressure is promptly relieved by adonidin.

While this remedy is indicated in all cases of aortic and mitral regurgitation, it seems to exert an especially beneficial influence in those cases that have arisen as a result of chronic aortitis or of traumatic rupture of the valve, or independently of a rheumatic endocarditis.

Notwithstanding its prompt and energetic action, adonidin is a remedy that can with perfect safety be employed in conditions where digitalin would be contraindicated or at least given with extreme caution; as, for example, in fatty degeneration of the heart, simple hypertrophy, and some of the atheromatous conditions.

Administered to a healthy individual, adonidin does not give evidence of any great diuretic power, but when exhibited in disease, following the typical indications, it produces marked diuresis, especially when there is low arterial tension.

Specific Indications

Palpitation of the heart, mitral insufficiency, dropsy due to renal malfunctionation, irregular heart action secondary to renal lesions, dyspnea, and dropsy.

Sterility in Women

And How It May Be Treated

By Alfred de Roulet, M. S., M. D., Chicago, Illinois
Professor of Diseases of Women in Bennett Medical College, Medical Department of Loyola University

A WOMAN is said to be sterile when, having had the necessary opportunities, she is unable to give birth to a living child In absolute, or primary, sterility, conception does not occur, while in relative sterility the patient may become pregnant but is unable to complete the term of gestation. For all practical purposes, a woman may be considered sterile who has not become pregnant within three years of her marriage. Ansell's table (quoted by Duncan: "Sterility in Women," London, 1884) shows that of 6035 first-born children 3159 were born during the first year after the mother's marriage; 2163, during the second year; 421, during the third; 137, during the fourth; 69, during the fifth; and 86, from the beginning of the sixth to the end of the fourteenth. Voluntary, or facultative, sterility may result from sexual abstinence or through the employment of various devices and practices calculated to prevent conception or to induce abortion.

Secondary, or the socalled "one-child sterility," is an increasingly important variety, in which the woman bears one child shortly after marriage and never again becomes pregnant. In the study of a series of 170 such cases reported from various clinics, sterility was found to be due to gonorrhea in 44 (25.8 percent), and to puerperal infections in 32 (18.8 percent).

Physiologic sterility usually exists before puberty, during lactation, and after the menopause. As a matter of fact, the majority of women become sterile several years before the menopause.

It has been customary in years past to attribute all childless marriages to some fault of the wife, it being considered that ability to complete the sexual act established the husband's blamelessness in the matter. Unfortunately, *potentia cœundi* by no means implies *potentia generandi*, and recent investigations show that from 12 to 20 percent of all sterile marriages are due to some fault in the husband. Occasionally the latter may be unable to complete the act (impotent), more frequently the seminal fluid is deficient in quantity (oligospermia) or it may contain few or no active spermatozoa (azoospermia). In a series of cases of male sterility reported by Sanger, there were 1 case of impotence, 13 of oligospermia, and 37 of azoospermia.

The causes of sterility in women may be congenital or acquired, and they may affect any organ or any portion of the genital tract. In addition to the local causes, there are certain constitutional disorders frequently associated with sterility.

General Systemic Factors of Sterility

The general condition of the patient is often an important factor. Many women are sterile when in poor health, but readily conceive when, as a result of proper feeding, medication and surroundings, their physical condition is brought up to a proper standard.

Obesity has long been recognized as a cause of sterility, though the manner in which it prevents conception is as yet undetermined. The fault may lie in the anemia which usually accompanies the condition, or deposits of fat

in and around the pelvic organs may interfere with their function.

Conception rarely occurs in women with exophthalmic goiter, and, as a rule, the more advanced the disease, the less likely is impregnation to occur.

The long-continued or habitual use of certain drugs tends to produce barrenness. For example, alcoholics and morphine- and cocaine-habitues rarely become pregnant. In certain parts of Europe where ergot poisoning is prevalent, sterility is common. Chronic lead poisoning, while comparatively rare in women, is usually a cause of early abortion.

A number of observers during the past few years have asserted that frequent or prolonged exposure to the x-ray produces certain changes in the ovary which render conception improbable, if not impossible. The time of exposure necessary to cause sterility and the duration of the condition when produced are undetermined.

The possibility that a certain intangible personal incompatibility may cause sterility has frequently been mentioned, and cases are recorded from time to time which seem to show that such a cause does exist. The historic cases of Augustus and Livia and of Napoleon and Josephine are frequently quoted. My own opinion is, that a searching investigation would show the gonococcus at the bottom of this mysterious personal incompatibility.

With the laity, the absence of sexual desire (anaphrodisia) is considered a rather important cause of sterility, and practically all childless women who at the same time are devoid of any sexual inclination attribute their sterility to this cause. Where the anaphrodisia is an evidence of imperfect development of any of the sexual organs, of course this lack of development is the real cause of the sterility. Where there is normal development of the essential organs, however, the lack of sexual appetite probably is a factor of very little importance.

Ashton claims that women who masturbate usually are sterile. While this is very true, the sterility can hardly be attributed to the self-abuse, as masturbation in women is essentially a diversion of middle age.

Anatomical Defects

Local causes of sterility may be found in any one of the organs involved in the process of reproduction, and the determination of the local factors involves a searching investigation of the ovaries, tubes, uterus, vagina, and vulva. When any of the essential organs are absent or anatomically deficient to a marked degree, the condition generally is accompanied by evidences of imperfect development in other organs.

On account of its peculiar persistence in the performance of its function, the ovary is rarely a cause of sterility. Ovarian cysts

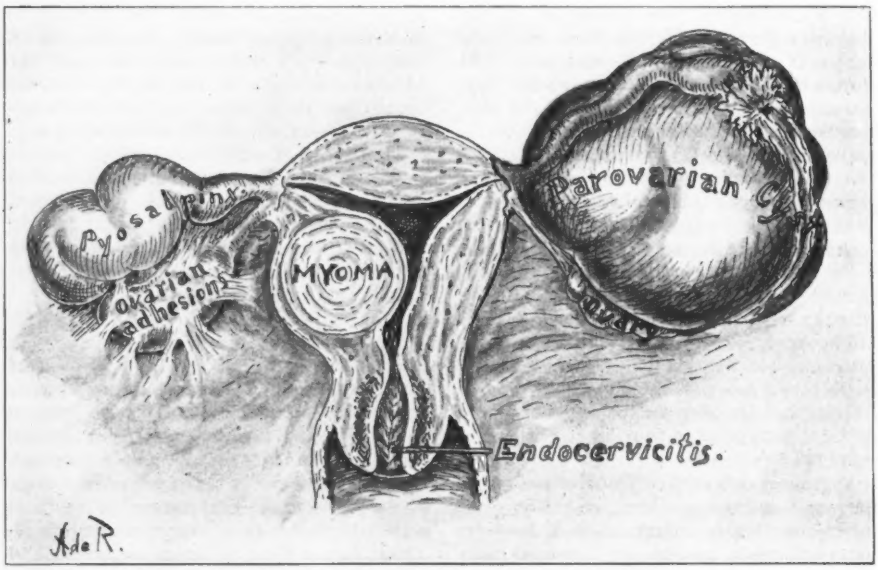

Fig. 1. Showing Parovarian Cyst.

interfere with but do not absolutely prevent conception, while parovarian cysts (Fig. 1) render impregnation improbable by widely separating the ovary and the orifice of the fallopian tube. As the result of an infection spreading from the tube, the ovary may become bound down in a mass of adhesions in such a manner as to prevent rupture of the mature graafian follicle and the extrusion of the ovum.

Microbic Invasion as an Important Factor

The most trifling abnormality of the fallopian tube may cause sterility, but ordinarily the condition is due to tubal infection, congenital anomalies being comparatively rare.

Gonorrheal infections are a common cause of primary sterility in young married women who have been infected by their husbands, while septic infection is not an infrequent sequel of criminal abortion. Several observers have called attention to the frequency with which permanent sterility follows an induced abortion.

As a result of infections, the fallopian tube may be bound down in a mass of adhesions or distorted in such a manner that its lumen is occluded or that its fimbriated extremity cannot approach the ovary. If the inflammation is limited to the mucosa, the swelling of the mucous membrane, during the acute stage, will result in a complete closure of the tube, which will disappear as the inflammation subsides. If the inflammation becomes chronic, there is likely to be a destruction of the ciliated epithelium, rendering the passage of the ovum to the uterus difficult, if not impossible. Occasionally there is also present an acrid discharge hostile alike to the ovum and the spermatozoa.

Should the tube become distended with pus (pyosalpinx), the prospect of its functional restoration, even by operation, is remote. In many cases where it is impossible to detect any evidences of an old gonorrheal infection in the tubes, it is possible to clear up the diagnosis by uncovering a more or less latent focus of infection in the uterine cervix, the urethral follicles (Skene's glands) or in the ducts of the vulvovaginal glands.

Uterine disorders are a frequent cause of sterility. Cervical stenoses and atresias and hypertrophic elongations of the cervix have repeatedly been pointed out as important factors. In chronic endocervicitis, the discharge may act by occluding the canal or by destroying the spermatozoa with which it comes in contact. In endometritis, the discharge may prove fatal either to the ovum or the spermatozoa, or the surface of the endometrium may be in such condition that the fertilized ovum can find no suitable lodgement.

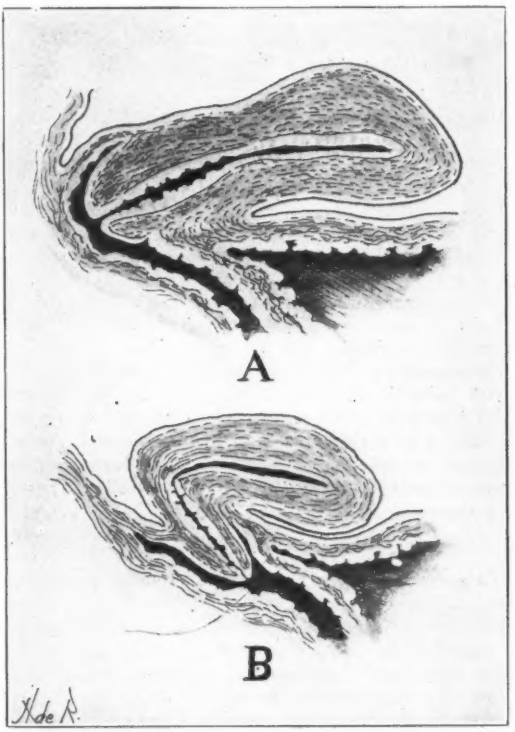

Fig. 2. Anteflexion of the Uterus.

Uterine displacements are associated often with sterility.

In anteflexion (Fig. 2), the sterility is due, not to the flexion, but to the imperfect development of the uterus, of which the flexion is but a symptom. It is not altogether impossible that the obstruction to the cervical canal might be sufficient to prevent conception, but it is not probable.

Retrodisplacements of the uterus, especially where the uterus is more or less bound down by adhesions, may cause sterility. The changed position of the cervix might tend to prevent the entrance of the sperm-cells, but it is more probable that the

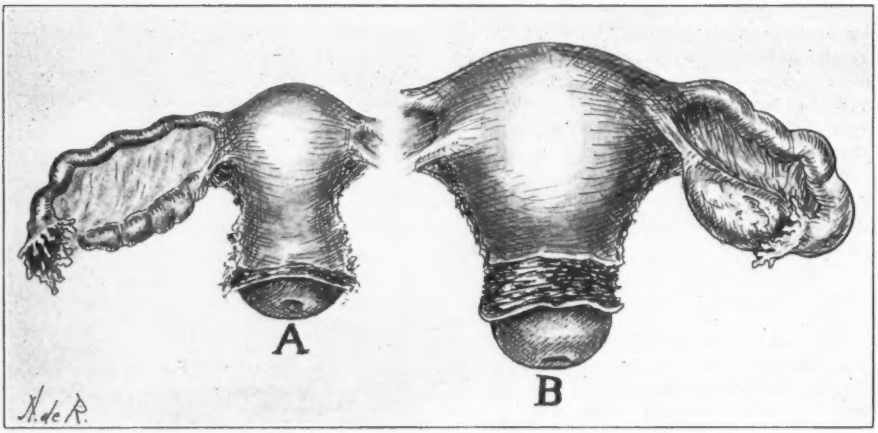

Fig. 3. "A" is an Undeveloped, "B" a Normal Uterus.

accompanying chronic endometritis is the real factor.

Pregnancy rarely occurs in a prolapsed uterus. Lacerations of the cervix offer no bar to conception, but where the lacerations are extensive there is an increased liability to abortion.

Are Uterine Tumors a Factor?

Uterine tumors are frequently but not necessarily associated with sterility. Pregnancy very rarely occurs in connection with cancer of the body of the uterus, still, an occasional case of pregnancy complicated by cancer of the cervix is reported. Myomata usually are considered possible causes of sterility, but it is doubtful whether they are a factor of much importance. In the museum of Loyola University Medical School is a very interesting specimen, of Dr. Herzog's, showing multiple myoma associated with a three-months' pregnancy.

Olshausen, in 1731, collecting cases of uterine fibroid, found that 30 percent of the patients had never borne children. Hofmeier investigated 327 cases and found that 20.5 percent of the women were sterile, that the average age of the patients examined was 42 years, and that the average duration of the sterility had been 16 years; and that the sterility had existed before the appearance of the fibroid. Hofmeier also points out that, of a series of 503 women who were sterile or who had borne not more than one child in five years of married life, there were only 7 cases of fibroids, and in 4 of these 7 cases the sterility undoubtedly was due to other causes.

A woman with an undeveloped uterus, either of the infantile (Fig. 3) or the immature type, rarely becomes pregnant. Associated with the imperfect uterine development is a tapiroid elongation of the cervix, the cervix being long, slender, and directed downward and forward along the axis of the vagina, the body of the uterus being sharply anteflexed. A small distinctly conical cervix with a pinhole orifice has been recognized as a cause of sterility since the days of Moses and in all probability does constitute an efficient barrier to the entrance of the spermatozoa.

Laceration of the perineum and extreme shortness of the vagina are said to be a cause of sterility, by rendering the vagina incapable of retaining the seminal fluid a sufficient length of time. I doubt this very much.

Prognosis of Sterility

In any case of sterility, the prognosis depends entirely on the cause. The absence of any of the essential organs of generation means an incurable sterility. When the condition is due to tubal inflammation, the prospects of a cure are not bright. Where the condition is due to uterine displacements, an elongated or conical cervix, benign tumors, cervical or perineal lacerations, endometritis or certain constitutional disorders, the prognosis is excellent. Where the fault lies in an imperfectly developed uterus, then the greater the imperfection, the less the prospect for cure.

In the absence of any distinct pathologic condition to account for the sterility, active treatment should not be undertaken until the husband's potency has been ascertained.

Treatment of Sterility

The treatment of sterility in women is based upon the discovery and removal of every condition, local or constitutional, which could have the slightest effect in producing sterility. In a few cases no evident cause can be found, and in these cases the treatment is bound to be more or less empiric. Usually, however, several possible causes are found, and then the task of eradication begins.

In certain of the constitutional causes of sterility, such as tuberculosis, diabetes, grave cardiac or renal disturbances, and exophthalmic goiter, I can not help thinking but that the patient is infinitely better off sterile than otherwise. Other conditions, including anemia, malnutrition, obesity, and so on, should receive appropriate treatment.

Frequent miscarriages at advancing stages of gestation should suggest luetic infection; and, if such a condition does exist, the patient should receive five or six intravenous injections of from 0.3 to 0.4 Grams of neosalvarsan, the injections being repeated at intervals of one week, followed by a two-years' course of intramuscular mercurial injections.

In the treatment of local causes, any condition that could interfere with coitus (for instance urethral caruncles, vulvar vegetations or hyperesthesias) should be corrected. Imperforate hymen still is mentioned as a possible cause of sterility; but, as a rule, this condition demands treatment long before any possible question of sterility can arise.

Retrodisplacements should be corrected, with a pessary if possible. If this fails, the round ligaments may be shortened. Anteflexions should be treated by wide dilatation of the cervical canal. Where the sterility is associated with endometritis or dysmenorrhea, thorough dilatation followed by curettage usually is the best treatment. Where the dysmenorrhea is severe and of long standing, it is often advisable to widen permanently the cervical canal by the introduction of a silver-wire spiral (Fig. 4) which may be worn continuously, and without danger or discomfort, for several weeks.

Fibroid tumors often may be enucleated without difficulty, and with some prospect of relieving the sterility. It should always be explained to the patient, however, that enucleation does not insure the complete removal of the tumors and that there may be a further development necessitating a second operation.

Parovarian cysts of moderate size can usually be removed without destroying the tube and ovary on the affected side. Operations for the restoration of an occluded tube (pyosalpinx or hydrosalpinx) usually result in failure. The breaking up of peritoneal adhesions and freeing a compressed ovary or distorted tube may restore normal conditions to such an extent that pregnancy may occur after the tissues have recovered from the effects of the operation.

Where no definite cause can be discovered, dilatation and curettage is employed as a purely empiric form of treatment, but one which in many cases is followed by thoroughly satisfactory results.

Occasionally the deposited spermatozoa are destroyed by a strongly acid vaginal mucus. To remedy this condition, alkaline douches (sodii bicarb., drs. 2; aquæ, ozs. 48) shortly before coitus are useful.

In a recent number of *The Journal of the American Medical Association* (April 26, 1913, p. 1318), too frequent coitus is mentioned as a possible cause of sterility, the writer suggesting that overindulgence causes the extrusion of immature ova incapable of fecundation. This explanation is not sound, as we know that sexual excess can, and does, cause a more or less temporary azoospermia, while we have no evidence that coitus has any effect on ovulation. The treatment suggested by this same writer, however, is excellent, namely, that for five or six months there should be complete abstinence from all sexual intercourse, except immediately before and immediately after menstruation.

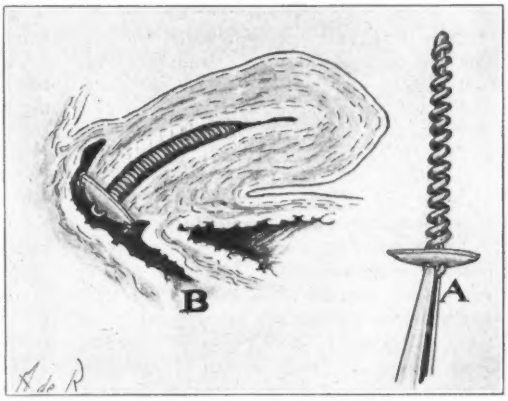

Fig. 4. Silver-wire Spiral Pessary for Relief of Dysmenorrhea.

An Old Doctor's Life Story

An Autobiography

By Robert Gray, M. D., Pichucalco, Mexico

EDITORIAL NOTE.—This article is the eighth installment of Doctor Gray's remarkable autobiography, which gives the intimate record of an adventurous and romantic medical career, beginning in our own South before the war, and now going on, as it has for years, in tropical Mexico.

[*Continued from October issue, page 927.*]

Phanton Shadows of Jenner

HOWEVER reluctantly, the truth must be told, and, so, I shall have to confess that I entered into combat with smallpox as ignorant of any practical method of treatment of that horrible disease as I had been in my conflict with yellow-fever, save in the feature of vaccination, for which I was in the highest degree qualified and prepared. And I took that branch of the campaign.

It was a hard battle with the Mexican populace to vaccinate them, the process being forcibly applied on the plantations, while the small ranchers almost unanimously refused the treatment, even when gratuitous, and for this they paid dearly, in the tribute of life the disease imposed when it made the customary rounds. The vaccinated persons of the plantations almost completely escaped infection; and not over ten percent of those who were not immunized by vaccination died. I did not then know all that critical experience has taught me since, and I am now satisfied that those who died after vaccination had in their systems some counteracting virus, hereditary or of other acquirement, that neutralized the vaccine to a degree as to render its influence negative, although the pustules had developed normally.

Since then, I have had the opportunity to observe some syphilitics, from the day of vaccination to that of death, infected after having been pustulated as elaborately as many of those who were positively immune. That there are such abnormal resistant poisons in some systems—possibly idiosyncrasies were the better term—there is no tenable ground for controversy; yet, I have never been able to discover any characteristic ear-marks of the negative influence that renders the protective virtue of the vaccine abortive, unless some peculiar state of the virus of syphilis, with pustulating fertility, destroyed the efficacy of the vaccine, while not interdicting, if not really aiding, pustulation. And I have never read anything clearly defining the obscure hypothesis, more than that healthy persons had been inoculated with syphilis by vaccinating them with virus from the arms of persons who subsequently died of smallpox and were found to be syphilitic; also, that some syphilitics had been immune to infection by smallpox—a contrariety of uncertainty.

Yet, with ninety percent of immunes from vaccination (the estimate I have made for more than two score years), what a boon the immortalized Jenner has bequeathed to imperiled humanity of all time!

While thus assiduously at work right along in advance of the pestilence, I was called to see the German manager of a big plantation who had contracted the disease away from his post of duty, before it reached his place. I found him in the last extremities. I strongly prognosticated early dissolution and told him frankly that, if he had any personal dispositions to make, he had no time to lose. His secretary was called and the patient started to dictate; but his mind wandered and his voice failed him.

The tidings that his case was hopeless reached the employees. The men were coming in from the plantation work, and many stopped at the house to ask about the patient. I was out in the corridor. One Indian boy doffed his cap and approached me, begging my pardon for saying so, but that it was a a pity that the good man had to die, but he believed that his mother could save him. I asked where the mother was and he told me, in their cabin less than a league away. I told him to run and bring her, and forty more such, if they could do any good.

Little time elapsed ere the two came in the regular Indian dog-trot, carrying some bundles, the old woman half scornfully bowing to me and not stopping until she reached the kitchen. I was not permitted to enter the kitchen while she was preparing her simples, and, likewise, when the remedies were ready, I was absolutely excluded from the sick-room. What was my astonishment when the next morning I was told that the man not only was not dead, but was conscious, able to speak, and apparently much relieved. The outcome was, that he got well, with no more than two small pits in the forehead,

and was up ere I finished vaccinating the people of this plantation and those of several smaller places in the neighborhood.

The German manager offered the woman five hundred dollars for having cured him; but she scornfully refused to accept a dollar, telling him her sons gave her all the money she needed; that he had been good to her boys and she had therefore come to him in his desparation, when, had he maltreated them, he might have died, for all she cared, like a rabid dog. He then offered her one thousand dollars for the prescription that cured him—really for me, of course, though he did not tell her so. The old Indian woman flew into a passion, demanding to know whether he thought her poverty was so miserable as to compel her to sell the last fragment of the wisdom of her ancient race to the palefaced bandits who had robbed her people of all outside that. Later, I learned indirectly that subsequently as much as five thousand dollars was offered by other parties, but with the same negative result.

The secret of that shriveled old Indian woman, coupled with the dowry bequeathed by Jenner, would make a combination absolutely master of smallpox. I was painfully mortified that such a poor, ignorant person could put me to shame. But there was no help for it. I knew nothing about treating the developed disease, and there was no medical preceptor anywhere able to teach me.

I Cope With Tropical Fevers

When the smallpox epidemic had exhausted its infectable victims, the disease disappeared; whereupon I turned my attention to the malarial, pernicious, and other fevers that stalked abroad in the land. But, while it seemed that I understood the diseases amply well and felt myself qualified to cope with them, my medication did not respond to the reliance I was forced to put upon it. I had the highest-grade medicines that Paris afforded, and, for some of them, had secured a higher concentration than the ruling standard, satisfied that the virulence of tropical diseases required more potent medication than of those of France or Europe in general. I had met a type of fever on the Pacific Coast, often raging epidemic from Acapulco to Salina Cruz and up along the coast of Michoican, as deadly as was the yellow-fever in the state of Vera Cruz, although without the black-vomit feature. In my struggles with this enemy, with all my learning and elegant equipment, I gained no dazzling medals. I saw the poor victims die, who, my intuitive intelligence admonished me, should have recovered. But this was an achievement I had no means to attain.

My conscience revolted when I was paid for such work, making me feel that it was blood-money that I was receiving, inasmuch as I had attempted to save, but failed, imperiled lives from a disease which, I was positive, was amenable to appropriate medicaments, if only they came to my ken.

I had kept in correspondence with my Civil-War companion, previously mentioned, who had returned home to Paris, and he assured me that I was master of all there was to be learned and had the best medicines in all the world. Hence, the only consolation I had was, that the money paid me for odd jobs of surgical work was well earned, and that my vaccination of the natives, which I persisted in pushing, was doing good in a degree sufficiently important to justify me in continuing the medical burlesque. The people wanted doctors, and would have them whenever in reach; nor did they blame the doctor when the patient died, an outcome they usually regarded as a foregone conclusion. As a matter of fact, they were so accustomed to this usual mournful termination that frequently the coffin was made and all the other funeral arrangements were prepared, even while the patient still retained consciousness. However, this pernicious custom I stopped wherever I was in attendance.

Naturally, among my numerous patients there were many who were not dangerously ill, and who recovered promptly; then their cure was attributed to my superior skill, the poor deluded people believing that certainly they would have died but for my skilful treatment; and this, in turn, brought me many patients who really had no need of a doctor at all.

The Dawning Light

Revelations have come to some people, both of cheering and of sinister significance; and there have been prophesies galore, some guessing around the borderland of Truth—more fanatically false. And there have been lights of the world, in pious phraseology, and lights in dark places, sometimes inconveniently surprising. But the first glint of Doctor Kane's midnight sun did not flash a ray of more dazzling light into polar darkness than that which burst upon my benighted mind, late in the year 1872, when the propaganda literature of Chanteaud & Burggraeve, of Paris, together with a

supply of their dosimetric tablets and granules of the active principles of galenic substances, reached me in the somber sequestration of the torrid wilds of Mexico, where I was in a desperate grapple with deadly fever. And that precious contribution from my war-comrade was supported by the hearty endorsement by the brightest clinical scientists of Paris, who had proved out these new remedies to a finish, and cried "Eureka!"; for, they had found the desiderium so long and so vainly sought in the medical realm. And in the same mail there came a letter from the venerable Doctor Hypolite Hérard, in which he assured me that my long-deplored want had now at last been supplied by Doctor Adolph Burggraeve, professor in the University of Ghent—the Christ of medicine!

It was the dawning of the light I saw, as I sat in my rocking-chair at the termination of the epidemic of yellow-fever. It was the birth and the baptism of my legitimate clinical career, endowing me with the ability to save desperate patients from whom the white-winged dove of hope had fled.

That has been a long time ago—just a few months less than forty-two years. And the marvels—aye! miracles—that I have seen those diminutive, frequently-repeated alkaloidal wonders of chemical triumph perform would fill several volumes as elaborate as this, were each intensely critical case detailed as the elaborate case-reports filling the medical journals of the day. And since then the mails have brought me from gay yet brilliant Paris, year in and year out, any and every new feature of that modern medical revelation. Even yesterday, the mail brought me some twenty French medical journals and special booklets replete with useful doings in that new camp of "*improved galenic medication*," as I have termed it more than a hundred times, as reported in medical journals from Canada to India.

And, at this point I venture to make the statement that I have positive certainty that *I was the first English-speaking practitioner who ever used the active principles of galenic substances*, for, my supply was purchased from the first batch ever prepared for the profession in the laboratories of the famous French chemist, Charles Chanteaud.

A New Life Begins

Then and there I began to live a new life, a life absolutely devoted to the sick members of our suffering humankind in these tropical lagoons and jungles; and that with no other purpose or motive or hope on the earth than to help. From now on, I no longer sought perilous practice in order that I might shorten my days, having become convinced that I was immune to any danger of infection; yet neither did I shun or shirk the most perilous service that drops so many of our young and hopeful brethren along the ghastly way-side. My physical health I guarded with the zealous care with which a miser protects his accumulating hoard, and this simply by living in conformity with the laws of nature (for, I do not patiently tolerate acute physical pain). My mental tortures I left buried in the wreck of the past where my clinical life began, in the wild rural haunts of hapless Mexico, the land where I have roamed ever since, and where I must sleep, surely, ere another decade passes by.

Yet, the end of this weird, enchanted pilgrimage absorbs incredibly little of my waking thoughts; and, I imagine, I may go as it lately was said of one of the prominent physicians of St. Louis—E. O. Standard—and as I should wish to leave this life: "forget to wake up some fine morning."

I think my situation is truly enviable, with no known living kin—man or woman—sufficiently near to be legal heir, and nothing on earth beloved, save my profession and my fruits and flowers—inanimate objects that will not weep over my lonely bier nor mourn beside my solitary grave. And yet, there may be waiting me a funeral such as never before there was anything like in this weird, quaint hamlet, where the poor and the wretched have never called me in vain.

From that day of awakening to medical life, I have remained, as it were, almost buried alive, down here in tropical Mexico, amid her fadeless flowers and blighting fevers, in a medical practice probably not less trying than may be found anywhere that flesh and blood has ever weathered for such a long lapse of years; and it has been but little more than twenty years since I first began to write squibs to the medical press about my experience. I did not really know what was happening elsewhere. I had no American medical journals, nor even heard of the existence of any that might be useful to me. My reading-matter and my medicines were French; and I did not write contributions for the French journals very often, knowing that the elegant practice of France and Belgium could not be greatly interested in the backwoods practice of Mexico. America was very slow about making proselytes to the new departure; indeed, it opposed alkaloidal therapy in a vindictive spirit really

alien to the progressive tendency attributed to that country when finally it was taken up, by a few feeble hands, in a formal manner.

Boosting Alkaloidal Therapy—Getting Acquainted

The shameless, unprofessional crusade waged against those early pioneers, whose enterprise I knew to be of sterling merit, and worthy of encouraging support, pricked me to subscribe for a large number of American journals and to send to all of those contributions that were drawn by the square-and-rule of the regular profession, but with some odd phrase dovetailed in about the high degree of service some French preparation had rendered me, but which certainly was unknown to the readers and very likely a stranger to most of the editors. As a consequence, great numbers wrote me for more information; and I had ready printed answers, giving outlines, in a nutshell, of the new medication. Not one of the journals would have printed an article on the subject. My answers advised the writers where full English information could be had and the preparations in question secured.

Those articles attracted sufficient attention that a number of editors wrote, requesting me to contribute something to their journals, and this I gladly did until my capacity to write more was reached, all such papers being written in the night, while I was watching desperate patients through the crisis, in plantation-houses.

For some time I did not write even a letter to the American enterprise of my faith, the journal issued by the firm being small and without circulation beyond its own proselytes; nor did I, for some time, try the medicines prepared by them, reluctant to change from my well-attested French supplies.

Finally Dr. Wallace C. Abbott, of Chicago, learned of me and of my work here, and sent me a full line of samples, with literature, accompanied by a request that I write for the journal he was publishing. Finding his products up to the standard of my French makes, I began to order my supplies from his enterprise, and also wrote some papers relative to my practice and experience down here. However, I was in ecstacies over my supplies from Paris and, so, strayed away in coordinate paths, but which converged toward the same principle.

The first quest I made among the treasure was a febrifuge that would supplant the perilous and unsatisfactory quinine, so extremely dangerous in dosage sufficient to break rebellious fever. Aconitine was the drug that I found more directly suited to my urgent requirements of the moment; but it was, emphatically, contraindicated for these weak tropical people. Yet, I saw how impressive were the instructions to watch for indications of any depressing influence upon the heart, and how to rally and sustain that capricious organ. I had feebleness of heart to start out with, equivalent to the action of a depressant upon a normal heart. Hence, I resolved to sail in with the aconitine and to employ the stimulant throughout the treatment.

Convincing Experience with Aconitine "to Effect"

I had in charge four or five cases of pneumonia, not yet to the crisis, in a high degree hopeless; and to these sick I went with the little granules of aconitine, giving one, about equivalent to 1-134 grain, of the amorphous principle, every fifteen minutes, and not to exceed ten doses; then every half hour, a few times, moving along to one-and then two-hours' intervals, watching with almost nervous trepidation for toxic symptoms—drug-sufficiency, or, the limit of tolerance; my physiologic training being ample to guard me from letting merge into collapse, and the hearts seemed to bear the strain with encouraging constancy.

One patient, in ten hours, was in a perspiration rivaling that of a Turkish bath; another held on something past thirteen hours; another wilted at eighteen hours; and the fourth at twenty-one hours. The fifth one was dying when I reached the house. Those that reached eighteen and twenty-one hours had a few fifteen-minute doses again, and half-hourly and one-hourly doses ere they were finally saturated. The other agencies of pneumonia medication of that age, mostly obsolete today, were employed energetically. The patients all recovered, and I now verily believe that the aconitine destroyed the pneumonococus—a complication of which, of course, we were profoundly ignorant in that age.

Those cases were a revelation to me, both as to the virulency of the disease and the requisite dosage to dominate each case. What sufficed for one patient in ten hours would have been negative with the one of twenty-one hours, if not that of eighteen hours, while it might have modified the one of thirteen hours in an appreciable degree. And the dosage that was continued twenty-one

hours would have killed the patient who had sufficient in ten hours. I found some persons with an idiosyncrasy whom aconitine did not dominate, but in whom veratrine acted effectively, as a rule; yet, sometimes that powerful substance was also negative, and then strychnine arsenate was effective. The system must be impregnated with some obscure poison too potent for venomous aconitine to vanquish, maybe in affinitive auxiliary with the virus of the disease.

Aconitine was regarded as toxic by medical experts, witnesses in a murder trial of an American doctor for poisoning his brother-in-law, in a London court; these experts testified that aconitine was too poisonous to be used as medicine. A report of the case was published in *The Medical Brief* of St. Louis, some ten years ago, maybe a little less.

There were three great cardinal points of vital importance in the new form of these new medicinal substances: stability; uniformity of strength; accurate dosage—all ever absent in the current standard galenics. If made standard, they deteriorate early, and no doctor can understand or guess how much; hence, accuracy of dosage is impossible. The unscrupulous druggist can adulterate or substitute at pleasure. The most of the liquid forms are nauseating to delicate stomachs, and too bulky to carry; on the other hand, the diminutive tablets and granules are not repugnant, their sugar-of-milk coating rendering the medicine tasteless; and of these new forms equivalent to two mule-loads of liquids may be carried in the overcoat-pockets.

I have been unable to conjecture how American clinicians could have the heart to combat medical betterment, unless they were blindly actuated by dominating sinister influences of manufacturing chemists, who howled infidelity to Galen and ruin to the regular profession. A person once very dear to me became a partner in a big manufacturing chemical company, and I made him an enemy to the day of his death by refusing to recommend a substance that was sent me but had failed, in my hands, to redeem its pretentions.

As to Galen, I devoutly worshipped at his shrine some twenty-two years, including the time I was studying in Paris; and tonight I pay him all the reverence that is his due. But this I do not recognize as a right to impede or hamper medical progress. He gave the world the best there was in his age, amply crude, as we now know, yet, containing the active germ that enlightened and enlightening Science has developed from his incongruous bulkiness; which he undoubtedly would have approved, had he been on the active stage when Burggraeve raised the mystic curtain and revealed the new wonder.

Our great altruistic pretensions are the promotion of health and long life, and I begin to hope that I have about redeemed my pledge by the part I have contributed toward the humane proposition.

(*To be continued.*)

The Urinary Diseases of the Senile Male

Giving Experience with Arbutin

By Charles F. Lynch, M. D., Terre Haute, Indiana

DURING the past year or eighteen months, I have had occasion to treat a number of cases of urinary disturbances in aged men suffering from urinary discomforts due to various causes. Among the most frequent causes for the urinary disturbance, has been senile hypertrophy of the prostate gland. In old men complaining of difficulty in urination, one of the first things to be considered and investigated is the condition of the prostate gland. In a great majority of these old fellows, rectal examination will reveal a large tumor mass, of the size of an orange, replacing the small body of about the size and shape of a horse-chestnut, that should, normally, be found in this location.

Early Symptoms of Prostatic Enlargement

The enlargement of the gland encroaches upon the neck of the bladder and prostatic urethra. This causes an interference with the escape of the contents of the bladder, and as a result the patient has difficulty in starting the flow of urine, and at first this may be the only symptom of which he will complain. This difficulty in starting urination is usually first noticed early in the morning upon arising. In some cases, the patient may not be able to start the urine until an hour or longer after arising. In the meantime, there is considerable abdominal discomfort as a result of the full bladder, which, moreover, is not without its dangers.

If the patient is observing, he will also note that there is, at this time, a deficiency in the force of the urinary stream. This frequently becomes so marked that the patient has difficulty to keep from urinating on his shoes or clothing, and has to stand close to the urinal. The last symptom is due, not only to the prostatic obstruction, but also to the atony of the muscular fibers of the bladder-wall.

The next marked symptom to appear is, an increased frequency of urination, this being especially marked at night. The hypertrophied prostate gland presses upon the vesical plexus of veins and thereby interferes with the return flow of blood from the bladder-wall. This means increased irritability of the bladder-mucosa and frequent desire to urinate. In the daytime, when the patient is up and about, the normal muscular exercise tends to maintain the circulation, but at night there is no aid in overcoming the influence of the enlarged prostate gland, and as a result the congestion becomes pronounced.

An interesting point in differential diagnosis of hypertrophied prostate gland and vesical calculus lies in the fact that in hypertrophy there is an increased frequency of urination at night, while in vesical calculus there is frequent desire to urinate during the daytime, when the calculus is rolling about in the bladder.

Cystitis Develops at Last

As the condition progresses, the constantly increasing size of the prostatic tumor mass further encroaches upon the bladder-outlet, and as a result that organ is unable to empty itself completely. This results in the accumulation in the bladder of what is known as residual urine. Urine which is allowed to remain stagnant for any prolonged period of time undergoes ammoniacal degeneration, and, as a result, we have, sooner or later, the establishment of a cystitis. Dilatation of the bladder and atony of the walls of the organ follow as a logical sequence and the condition of the patient gradually and progressively becomes more disagreeable.

Finally, when the bladder has become stretched and distended to its utmost limits, a new and highly disagreeable symptom occurs. The bladder becomes so full that it is unable to hold any more and the overtaxed vesical sphincter relaxes, allowing the escape, every few minutes, of a small quantity of urine. This is a condition which is known as dribbling of urine and is one of the most disagreeable symptoms of which these old-timers complain. It keeps them constantly wet and uncomfortable, and causes them to complain bitterly unless we are able to give them some measure of relief.

Arbutin Proves Efficacious

During the past twelve months, in the management of senile hypertrophy, I have had occasion to try, among other remedies, one that has seemed to afford my patients a considerable measure of relief and, for that reason, it seems to me, should have a more wide application. This is arbutin, a glucoside obtained from uva ursi and allied species of plants.

Arbutin passes through the digestive tract largely unchanged and is excreted principally through the kidneys. In its passage through these organs, it exerts a mild stimulating influence upon the renal cells, thereby increasing the amount of the urinary flow. It has a marked sedative and tonic effect upon the inflamed mucosa of the congested bladder, thereby relieving the more urgent symptoms produced as a result of the obstruction.

These results, in themselves, are enough to commend the drug favorably to our notice as a palliative remedy, but I believe I am beginning to see results following its continued use that are even more important.

I have had a few patients who have been unable, for financial or other reasons, to have any operative work done and to whom I have been giving, palliatively, arbutin, in connection with prostatic massage and high-frequency treatments at rather long intervals. These patients not only have experienced a relief from urgent urinary symptoms, but there also has resulted a marked decrease in the size of the enlarged prostate gland. This has become evident only after a long period of continuous administration of the drug—six to twelve months—but it has, none the less, been positive and gratifying to the patient. Arbutin, I think, deserves further application in this direction, and results should be published.

"Some Native Remedies Worth Trying"

A Criticism of an Editorial in Clinical Medicine

By H. C. Smith, M. D., Glendale, California

AN EDITORIAL, appearing in the April issue of Clinical Medicine (page 306) and bearing the above caption, discussed, at some length, Eclectics and Eclecticism; but, after a careful perusal and due consideration, I feel constrained to offer certain criticisms, for, it seems to me to be a case of "damning with faint praise," coupled with some inaccuracies of statement.

After mentioning the devotion of Eclectics to the clinical study of native plant-drugs, the article goes on as follows: "Although these observers, more particularly the older ones, may not have been up to the present standard in the sciences underlying the healing art, it does not follow that they were altogether blind or incapable of observing correctly and reasoning logically from their experiences." In other words, this statement constitutes a sort of backhanded inference that these men were ignorant of subjects outside of clinical drug-study—a very common error on the part of those unacquainted with the personal histories of those men. It goes without saying that those old-time Eclectics were not "up to the present standard in the sciences underlying the healing art," for, that would be equally applicable to the practician of any other school of medicine of that period. But, were these men ignorant of the fundamental studies, medical or otherwise? Hardly.

To gain any accurate knowledge of Eclecticism and its founders, it is necessary to separate the history into two eras. The Eclectics of the first era advanced no so-called irregular dogmas as to the cure of disease, but merely sought to replace the harsh and drastic mineral poisons and the depleting phlebotomy, which their "observation and logical reasoning" had taught them were detrimental to their patients, by vegetable remedies. They were "separatists" only because the violent opposition of socalled authority drove them from the ranks and compelled them to separate themselves from the rest.

It is true that these men, through observation, logical reasoning or accident—it matters not which—discovered that the withholding of water and fresh air from fever-patients is a death-dealing proceeding; that the administration of acids when the tongue is thick, white, and dirty, or giving alkalis (especially the alkali cathartics and diuretics) when the tongue is red, dry, and fissured, only serves to further the imbalance already existent in the body-fluids; that by examining the urine they could discover many pathological conditions, their origin, location, and progress; and that thus they laid the foundation for the new theory of practice promulgated in the second era.

It is worthy of recall that, because these men's methods of examining the urine were crude and largely natural, they were derided by the ultrascientific Regulars; yet this fact was very promptly forgotten by the aforesaid Regulars as soon as they themselves began to make use of this diagnostic aid, and now most religiously refrain from extending any credit to those to whom credit is due, but, instead, slightingly refer to the "ignorance of the Eclectics."

Historical Sketch of Eclecticism

Let us investigate the educational qualifications of the early Eclectics. Wooster Beach, the father of Eclecticism, had availed himself of the best that the New York colleges afforded; he had added an extensive (for that period) knowledge of botanical therapeutics; had studied abroad; and was a prolific writer on medical subjects, as well as a collector of anatomical and pathological specimens. During the period from 1823 to 1850, when he and Doctor Morrow were actively engineering the destinies of Eclecticism, the Eclectic colleges followed the curriculum as taught in the foremost Allopathic colleges and used the very same textbooks; only they added to the list "The American Practice of Medicine," the first revised edition of which bears the following legend on the title-page: "By Wooster Beach, M. D., Member of the Medical Society of the City of New York; Professor of Clinical Practice in the Eclectic Medical College of Cincinnati, and of Syracuse; Corresponding Member of the Royal College of Physicians and Surgeons of Berlin (Prussia), etc."

In 1850, Dr. Benjamin L. Hill, of Cincinnati, published "The American Eclectic System of Surgery," the first of a series of

strictly Eclectic publications on various medical subjects, especially those in which treatment, and more especially drug-therapy, is a factor.

Dr. Thomas Vaughn Morrow, the successor of Wooster Beach, was educated at Transylvania University; was graduated from a Regular medical college in New York City, then from the Reformed Medical College of the same city; and, during his rather short life, was an indefatigable student and teacher.

Space will not permit consideration of all the early Eclectics concerned in shaping the destinies of the school, and who also were graduates of Regular medical colleges or held degrees from literary institutions, or both. These men were salaried instructors in the Eclectic medical colleges; they possessed the time, talent, and inclination for original investigation; and were investigators not to be despised, for, they experimented upon themselves—as well as upon their patients, especially along the line of drug-action.

The man who, above all others, was the connecting link between the first and the second eras of Eclecticism was Dr. John King, a man who "at the age of nineteen was master of five tongues; at twenty-two, lectured, in the Mechanic's Institute of New York, on magnetism and its relations to the earth, to geology, to astronomy, and to physiology"; was a student throughout his life; and was a close associate of Dr. John M. Scudder, helping him to launch the second era of Eclecticism. It was King who discovered and introduced resin of podophyllum (podophyllin), resin of cimicifuga (cimicifugin, or macrotin), and the oleoresin of iris (irisin). King was a voluminous writer and the author of a number of textbooks, among which is "Chronic Diseases," published in 1866, and which, after an interim of fifty years, even today will make most practicians better physicians and better able to handle chronic ailments, should they carefully study this work.

Scudder Brings Out Specific Diagnosis

Then came Dr. John M. Scudder, who not only possessed great native ability, but also the determination to succeed regardless of obstacles; who consumed the midnight oil night after night in teaching himself, not only Greek and Latin, but the modern languages, and perusing the medical literature of this and other countries.

While Dr. Charles J. Hempel and other men had, for a number of years, endeavored to interest Homeopathists in pathology and to reconcile their symptomatology with pathological findings, although without any notable success, Doctor Scudder also had studied Homeopathy and seen the advantage and utility of reconciling their findings with pathological findings, but found it impossible to convince himself of the correctness of their fundamental law of cure, namely, their "*similia similibus curantur.*"

Being a deep student both of pathology and of clinical therapeutics, and having assumed the professorship of theory and practice of medicine and pathology in the college, in 1859, Scudder evolved and elaborated what he brought to the attention of the profession, in 1869, as "specific diagnosis and specific medication." While this theory has been improved upon somewhat in the intervening years, a reperusal of his early writings on this subject not only discloses nearly everything that distinguishes Eclectic practice from other methods today, but also almost everything that is of value in "alkaloidal," or "dosimetric," therapy.

Scudder then taught that nosology is of utter inconsequence in so far as the medicinal treatment of disease is concerned. His study of pathology and clinical medicine had taught him that it is the organ involved and the nature of the involvement that determine the course of a disease and the signs and symptoms arising from it; that "like causes always produce like effects," and that these effects are only modified by collateral or extraneous conditions; also, that these involvements are evidenced by certain signs and symptoms that indicate their source and character; as, for instance, a pathological condition involving the nerve supply to a part generates different signs and symptoms from those arising from involvement of the blood or lymph supply to the same part. This method of interpreting the pathology through the signs and symptoms Scudder termed specific diagnosis.

As good tools are requisite to the accomplishment of good work, and as his knowledge of drugs, their origin, preparation, and mode of action had convinced him that it is necessary to have a good crude drug, to have this properly prepared, and then to know how it will act after it is taken into the body, Doctor Scudder persuaded Prof. John Uri Lloyd, then a rising young pharmacist of Cincinnati, to take charge of the important work of selection and preparation of his remedial agents. These preparations he named "specific medicines." That he copyrighted the

labels, was for the sole purpose of maintaining their high standard of excellence and thus protecting physicians from spurious imitations.

Specific Medication Defined

Scudder knew that reliable remedial agents will affect certain tissues in definite ways, whether such are healthy or diseased, and deduced therefrom that, if a pathological condition is producing irritation of the nerves supplying an organ or part, and if a remedy that is a sedative to that nerve supply is administered, then one can confidently expect a subsidence of the irritation in every instance, and the removal of the causative factor by the system during the process of restoration of nervous equilibrium, in most instances; or, if the pathology consists in an abnormal circulation in the parts, the signs and symptoms will so indicate, and it simply will be necessary to administer some remedy exerting a specific influence upon the blood supply to the parts or upon the general circulation, as the case may be, in order to accomplish the same results.

To this grouping of the signs and symptoms indicating the source and character of the pathology, Doctor Scudder applied the term "specific symptomatology"; the direct application of remedies to this symptomatology he termed "specific medication." He held that "all agencies employed in the treatment of disease should act in one of two ways—removing the depressing cause, and increasing the vital powers for better resistance and subsequent restoration of structure and function." Also, that "disease, wherever met and in whatever form manifested, is an impairment of vitality; that causes of disease are depressing and, while they exist, lower vital power." His slogan was, "*Vires vitales sustenete*"—sustain the vital powers; and he advised the administration of remedies in the smallest doses that will ensure desired results—a radical departure from prevailing and accepted practice of the dominant school, and even of that of the early Eclectics.

No history of the Eclectic fathers would be complete without that of Howe. Andrew Jackson Howe was to Eclectic surgery what King was to its materia medica and Scudder to its therapy. A graduate of Harvard University and a naturalist of no mean ability, he not only possessed a thorough knowledge of Eclectic medicine, but had attended several Regular medical colleges as well. Possessing an exact knowledge of human anatomy, he also had made, and published accounts of, necropsies upon various lower animals, including an elephant and a whale. Nearly forty years ago, Howe was drumming away at the medical profession, through the medium of the medical journals, in an attempt to persuade physicians to give more attention to histology.

What Constitutes a "Regular"?

Enough as to the educational qualifications of the early Eclectics. Most of them would scarcely have felt like calling themselves "freelances," merely because they gathered from whatever source was open to them. I believe that the appearance of toadying to socalled authority given, in the editorial, to Doctor Waugh by the statement, "especially when the remedies had also been tried to some extent by regular practicians," is belittling to the latter. What constitutes a "regular practician"? Does the fact that I am also a graduate of an Allopathic college make me any more a "regular practician" than I was before I received its diploma? The inference that only Allopathists are "regular practicians" is a gratuitous insult that has been freely peddled out to Eclectic and Homeopathic practicians for, lo, these many years. Possibly Leonard Keene Hirshberg, the publicist, who heads his effusions in the daily press with his picture and his "A. B., M. A., M. D. (Johns Hopkins)," is the true type of "regular practician." If so, and the following from his pen, clipped from a newspaper of recent date, is a fair sample of the goods displayed, then I, for one, am glad that there is a separatist school with which I may identify myself. It reads: "Nowadays, all the wise who know, say: 'Use the knife first, physical measures next, and drugs never, or at least, last.'" If this is the voice of infallible scientific authority, small wonder that the laity is losing faith in, and deserting us for, Osteopathy, Chiropractic, Christian Science, Weltmerism, and Apostolic faiths. Candidly, the wise who know—in fact, any who have had even a modicum of practical experience, say: "Such vaporings are the veriest drivel." Still, it is spread abroad in the land as "education," and is given credence because of the good repute of Johns Hopkins; more shame to Johns Hopkins and to the great A. M. A., which stands sponsor for it.

Quoting further from your editorial: "American writers and compilers have closely followed their European teachers, and, except Bartholow, scarcely one has had the courage to investigate the Eclectic works."

This statement is entirely too broad, unless the British authors are excepted, for they have investigated the Eclectic works; Phillips, in particular, quoted from such sources quite extensively in his "Materia Medica and Therapeutics of the Vegetable Kingdom." A number of other British textbooks on the subject are more thorough and complete in their treatment of the plant-drugs than are the general run of textbooks by American authors of the dominant school. "Now that we are cut off from our German source of supply, it well may be that among our wild-growing plants, as used by certain American practicians, we can find some neglected resources of value." This is a sad commentary on the lack of broadmindedness that characterizes the American branch of dominant and self-styled scientific medicine.

Defense of Eclectic Materia Medica

I hardly see the truth or justice of the following statement: "The Eclectics, on their part, have followed a similar, though opposite, course, and have confined themselves to their own peculiar materia medica, with some material taken from the Homeopathists." In what way have the Eclectics restricted themselves in the study of materia medica? It is true that not the same stress is placed upon mercury and some other mineral poisons, and that the recommended dosage of the preparations discussed is small; but it is equally true that a more rational dosage and therapy of these same drugs than prevailed formerly are now found in the Regular textbooks—a reform due to the influence of Eclectics and Homeopathists—Dr. John B. Nichols to the contrary notwithstanding.

Our Eclectic materia medica has been of sufficient breadth and scope that we have not found it necessary to waste much time and space in experimenting with the serums, vaccines, and animal extracts, and in recording innumerable observations which gave no one any definite information, and I believe that we have saved much valuable time, type, and bookpaper and done the profession a distinct service by not cumbering our books with inaccurate data. Aside from antidiphtheritic serum, smallpox vaccine, and thyroid extract, there was so little of definite value prior to 1912 as to be almost worthless, and those mentioned could be found in any standard work on practice. Doubtless, future Eclectic works will contain all accurate information upon this branch of materia medica.

We, the caudal appendage of Eclecticism, are almost bursting with pride since we have discovered that our "head and front," Professor Lloyd, has made us "respectable and honorable." Seriously, we need no outsider to inform us of the "genius and scientific proficiency" of John Uri Lloyd, nor to direct our attention to the merits of the "specific medicines"; but we shall be hard to convince that he is our authority on therapeutics or that he is the author of the abstracts credited to him, when we are well aware that Lloyd is not a physician and makes no pretense of knowing aught of practical therapeutics because of his lack of knowledge of disease-conditions to which we are called to apply remedial measures; but, of course, he does possess special knowledge along the lines of pharmacy, chemistry, and pharmacology.

It gives us keen pleasure to see Professor Lloyd, the Cincinnati Eclectics associated with him, and Dr. Finley Ellingwood given the recognition and honor justly due them; but we are strongly of the opinion that those other virile Eclectics in Chicago who preceded, as well as those contemporaneous with, Doctor Ellingwood, and who gave freely of their time, money, and, in some instances, even health, in an effort to keep the colleges alive and advance the cause of Eclecticism, probably had a salutary effect toward postponing the demise of the school. It might have died long ago, had not those valiant Eclectics of New York, Indiana, Iowa, Georgia, Missouri, and Nebraska kept up the struggle against strong odds for many years. The San Francisco Eclectics also made themselves factors in its existence, until the disaster of 1906 destroyed their holdings, and they, as well as the Los Angeles Eclectics who continued the work thereafter, at least deserve a little favorable mention.

When the editor of CLINICAL MEDICINE avers that "with the full and unqualified acceptance of the merits of our native materia medica the last excuse for the existence of Eclecticism will have passed, and it will have finished its work," and that "Waugh feels convinced that there are many remedies of real virtue among our native plants, but that the evidence as to their powers and applicability is suggestive rather than conclusive in most cases," it distinctly demonstrates that both, like a great majority of Alkaloidists and of Regulars in general, have failed utterly to grasp the fundamental principle of Eclecticism, which has kept Eclectics struggling for its perpetuation. That principle is, specific diagnosis, to which I have already referred.

I have not the space to elucidate further along this line, but wish to call attention to an article on phytolacca, in the June issue of *The California Eclectic Medical Journal*, as the best example of modern specific diagnosis and specific medication of which I have any knowledge. The evidence of the powers and applicability of any remedy will continue to be suggestive rather than conclusive in most cases, until our knowledge of pathological anatomy, pathological physiology, and diagnosis becomes a great deal more exact than it is at present; still, the aforesaid article is a noteworthy step in the right direction.

A Little Angry?

Too many physicians, Eclectics included, imagine that Eclectic therapy consists of learning the formulas upon the "specific-medicine" bottle-labels; and that an Eclectic should shy off from anything remotely resembling scientific medicine, like a mule from a rattlesnake; and entirely too many socalled Eclectics, when some conceited prig of the Allopathic persuasion, whose knowledge of drug-therapy consists in prescribing a round of calomel for every patient and of knowing that quinine sulphate is disastrous to plasmodium malariæ or bedbugs—he's not quite sure which—but, beyond that, depends upon the detail-men from the drug-houses, begins to swell up like a pouter pigeon and say: "Specifics? huh! there ain't no such animal; I practice scientific medicine"; then, I say, our poor little Eclectic begins to curl up around the edges, and cringe, and crawl, and apologize: "O, yes, I've renounced Eclecticism; I've outgrown all that and practice scientific medicine, too," etc., *ad nauseum*. 'Tis this, more than any other one thing, that is responsible for the asthenic state of Eclecticism at the present time—too much desire to ride in the band-wagon.

Scientific pharmacologic investigation is right and proper, and, to my mind, one of the most important steps taken in recent years by the dominant school; its members being the legitimate ones to pursue this line of investigation, as it requires a great deal of time and money, and they are the ones who have both. They also control the endowed institutions and our state universities, excluding the Eclectics and Homeopathists unless they accept a chair or two and furnish independent financial support, notwithstanding the fact that both Eclectics and Homeopathists, as well as their patrons, are compelled to help support these universities through taxation, whether they enjoy any representation or not.

On the other hand, the investigation of drug-action, after the manner of the Homeopathic provings, is essential to an accurate knowledge of this branch of medicine; and, finally, the remedies must be tried out in the crucible of clinical experience before drug-action will have become an exact science. Coordinately, this science of drug-action must be made to assist Dame Nature in antagonizing and overcoming the processes of disease-action by the methods the foundation of which was laid in 1859 by Dr. John M. Scudder, and which have been responsible for the continued struggle for existence of Eclecticism, rather more than the failure of socalled Regular medicine to recognize and accept the native materia medica, although both of these factors have played an important role.

Furthermore: There is no more reason for the extinction of the socalled irregular schools in medicine than there is for the extinction of all political parties but the Democrats at the present time. An active opposition is always a stimulus to more active endeavor in any line.

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[The reader will find a brief comment upon Doctor Smith's somewhat torrid and tempestuous criticism in the editorial department, this issue, page 991.—Ed.]

The Medicinal Treatment of Chronic Heart Lesions

By Henry Beates, Jr., M. D., Philadelphia, Pennsylvania

IN CONSIDERING the subject named in the title, the first principal question which naturally and logically demands attention is, What is the object of the blood-circulation, and how is that object attained? Bearing in mind that the cardiac cycle causes an intermittent physical result upon the blood-mass circulating *in the arterial system*, the second question intrudes; to wit, how is the intermittent pressure of an intermittently moving blood-mass converted into a constant pressure *in the areas in which metabolism and function occur?*

Relation of the Circulating Blood to the Cells

The fact should be recalled that normal metabolic and functional processes depend upon a constant pressure that exists between the arterial system, on the one side, and the venous, on the other.

Here let it be emphasized that, practically, the cells of all the structures of the body are *not* in direct contact with the blood; because it renders self-evident the fact that the fluid which bathes the cells, and which should be recognized as intercellular fluid, is the medium of supply to cells of the principles necessary to their life, and also of those principles with which certain groups of cells (organs) are endowed with the specific physiologic property of functionating.

That this intercellular fluid is capable of normally fulfilling its functions, is foundationed upon the mean pressure above referred to. To render this fact more clear, recall the physiologic studies of the laboratory, which demonstrate that the intercellular fluid of the myocardium, in its isotonic condition, activates the contractile function of the myocardial cell, and thus effects a cardiac contraction. As a consequence of this excitation, the isotonic fluid becomes hypotonic; and, unless it is instantaneously restored, in an infinitesimal fraction of time, the next beat will not take place. Thus, ionization, osmosis, and other biochemic problems are in turn conditioned upon the normality of intercellular fluid.

Another group of cells, constituting the liver, illustrates the point advanced, and demonstrates how the glycogenic, urea, and biliary functions are based upon this fundamental principle. So with the kidney and with other structures not necessary to enumerate.

This intercellular fluid serves also as the receptacle for the products of cell-life, as well as of cell function; and it is its office to carry these products to their intended ultimate distributions, so that throughout the entire system functions and the processes of growth and development may be maintained.

As the output from the left ventricle is intermittent, the current of blood flowing through the arteries partakes of the same character, but this intermittancy is largely neutralized by the relationship which is maintained between the elastic layer and the muscular coat; and thus a constant pressure is approximated, in contradistinction to the intermittent, or pulsatory, for self-evident reasons. It must be recognized that the lessening of the pulsatory character of the circulating blood-mass in the arterial system becomes a constant pressure in the capillary and intercellular areas, and is so continued in the veins.

What Propels the Arterial Blood-mass?

The physical characteristics of the arteries should be considered at this juncture; and it may be remarked that too much stress has been laid upon the importance of the elastic layer of the arteries, and not sufficient accorded the musculature and its nervous mechanism. When we recall how, as we travel up the arterial tree from the aorta to the smaller branches, the musculature becomes proportionately developed, it is evident that a mechanism has been supplied which results in the musculature of the arteries being largely concerned in performing the function of propulsion.

The belief commonly entertained, that the heart propels the blood, must be seriously questioned. If the contractile resistance to be overcome, resulting from the numerous subdivisions of the arterial system, be contemplated, an idea is given as to the intensity of the force which must be imparted to the two or three ounces of arterial blood ejected from the left ventricle into the aorta, to drive the entire blood-mass before it; and the conclusion is inevitable that the heart is

not sufficiently strong to stand such a physical tax and strain.

If this be true, what, then, does propel the blood-mass?

Certainly, the pulses of the radials and the dorsalis pedis arteries are almost or practically synchronous with the systole of the heart. But this does not demonstrate that the blood-mass, in the fraction of a second, rushes from the left ventricle to these remote regions. It simply proves that an arterial contraction takes place instantaneously throughout the entire arterial system! Hence, a wave of blood does not travel, but a wave-like impulse is imparted, because the arterial walls throughout the entire system simultaneously contract. The pulse-wave, therefore, is expressive of an arterial reflex: and, when the law of the succussion of fluids is contemplated, it is recalled that an impulse to a volume of fluid is detected throughout its entirety; it becomes self-evident that the pulse-phenomena, as an illustration of this physical fact, are correctly interpreted.

The property of socalled tissue irritablity must be borne in mind. It is well known to physiologists that an excitant, whether of small or great degree, calling into action a reflex response, is followed by a degree of intensity of reaction that bears no relation to the intensity of the excitant. Thus, a mere touch will cause a reflex as strong as that occasioned by a severe blow. This explains why, in fatty degeneration of the myocardium, while the heart, month after month, is gradually becoming metamorphosed into fat, the constanty increasing weakness of the force of the ventricular blood thrown into the aorta causes an arterial reflex to occur that is equal to that occasioned by the contracting ventricle of a normal heart. This explains why, without symptoms of note, fatty degeneration of the heart reaches the point where instant death is practically the first demonstration of its existence. Every artery, therefore, if the above be true, should be considered as a heart for the area it supplies; and, hence, arterial disease may be local, that is, limited to one vessel; or general, and thus affecting the entire arterial system.

Recalling what it is that the circulation as a specialized function fulfils—to wit, the supply of essentials for cell-life, as well as the necessitaties for cell function—it is not surprising that many diverse diseases are the result of disturbed circulatory equilibrium. Chronic myocardial disease, therefore, may be the result of coronary artery disease, valvular lesions, pathologic processes more or less involving the entire arterial system, or of toxic principles affecting the myocardium directly.

Circulatory Equilibrium the Therapeutic Aim in Chronic Heart Lesions

Enough has been said to permit the statement that, in treating this class of diseases, the *fundamental principle* upon which their therapeusis must be constructed *consists in maintaining a mean pressure between the arterial system, on the one hand, and the venous, on the other.* This condition being maintained, it secures the normality of the intercellular fluid. The *sine qua non*, then, *is the restoration and maintenance of circulatory equilibrium.* As the processes of growth and development are involved, treatment must be continued for a long period of time before achievement of the ends in view can be secured.

Empirical medicine has established the fact that there are glucosides contained in the plant digitalis that are capable of restoring circulatory equilibrium with greater certainty than is possible by any other known means. Therefore, reliable preparations of these active principles should constitute the remedy *par excellence* for administration in myocardial diseases.

Chemistry, as applied to pharmaceutical procedure, has given the profession three principles of digitalis that possess reliable therapeutic value, or activity; namely: crystallized digitoxin, "digitalin-German," and the soluble amorphous digitoxin, named, after its discoverer, digalen-Cloetta. This latter preparation has the advantage of being almost free from provoking gastric disturbances, even in large doses. Digitalin is now being manufactured by The Abbott Laboratories of Chicago, and as the war in Europe has caused a great advance in price of this reliable digitalis glucoside, it will be acceptable news to the profession to know that after extensive employment of Abbott's digitalin, the writer has proven its efficiency and therapeutic value to be the equal of the foreign product.

Also, in emergency, digalen can be employed intravenously, with reliance upon prompt response. Its action, other things equal, is as dependable as is morphine for its analgesic indications, or quinine in controlling the toxic effects of the plasmodium malariæ. For acute circulatory failure, it is, therefore, of unparalleled value, and, in proper doses and duration of administration, the same claims obtain for the chronic dis-

eases the heading includes. Its continued use for months, or even years, has, in the writer's hands, been productive of practical cures in several instances, and in numerous cases of the maintenance of efficient health for years.

In a word, all myocardial degenerative processes resulting in loss of circulatory equilibrium and culminating in cardiac failure, if subjected to this active principle, and its administration continued as indications require, can, in their incipiency, be postponed; later, controlled; and circulatory equilibrium maintained for many years longer than it would be under other methods. Thus premature invalidism is kept in abeyance for a number of years, and comfort and useful life secured.

Illustrations From Practice

Of numerous cases illustrative of the principles here briefly outlined, the following are selected:

Mrs. T., aet. forty-seven, suffered from acute inflammatory rheumatism, of an exceptionally persistent type, during the winter and spring of 1907. Ankles, right knee, digits of hands, and the shoulders were the principal joints affected. The endocardium escaped, but a myocarditis manifested itself by embarrassment of cardiac pulsations, increased rate, paroxysmal tachycardia, precordial distress, and respiratory oppression of sufficient severity to cause fear of impending death. There was some reflex cough. The acute symptoms subsiding, it left a chronic form of disease which prevented indulgence in the usual daily activities of a housewife. Ascending stairs and walking at a usual gait and up inclines caused much distress. The pulse-rate was habitually above 90; the valves were not involved; a state of semiinvalidism existed. In 1909, digalen-Cloetta was administered in 15-minim doses four times daily. The improvement was marked. Treatment continued for months, when conditions had so bettered that the remedy was used during alternate months only. The patient practically is recovered and is enjoying her one-time accustomed health. She voluntarily resumes the remedy at intervals varying from one to three months, taking it about three weeks each time.

In 1909, Mrs. M. first consulted me for rapid pulse-rate, disturbed respiration on slight exertion, paroxysmal tachycardia, at times quasiasthmatic attacks, more common at night; but principally because she was unable to walk any distance (half a block) without such precordial and respiratory distress as to be compelled to stand still for several seconds before being able to resume. The cardiac sounds were those of the valves quickly closing in succession, thus: one-two-three—one-two-three—one-two-three—. No murmur, as a distinct sign, could be detected. This galloping rhythm, so to speak, was the chief physical sign. The rate was from 90 to 105. There was no reliable history obtainable of any etiologic infection. The patient was house-ridden when first seen. I prescribed digalen-Cloetta, 20 minims three times a day. After one year's continuous use, she was enabled to resume a moderately active life. Indeed, she was single when treatment was begun; she married, continued the digalen, as she herself had learned to employ it, and, practically cured, was assisting her husband in the provision business, when last heard from.

In 1891, twenty-four years ago, Mr. F., now aet. seventy-four, applied for treatment for preternaturally rapid heart action. Its paroxysmal character, while not pronounced, was sufficient to attract the patient's attention. Respiratory discomfort accompanied the usual physical exertion of daily life. Mental and physical sluggishness were pronounced. The superficial veins, especially the temporals, were tortuous and distended. Cardiac sounds were distant; the first relatively weak, the second augmented. No murmurs. Digitalis-therapy has been maintained during these years for periods of several consecutive months, then intermitted until symptoms indicating repetition of the remedies called for treatment. For the past seven years, digalen has been successfully taken, and a degree of comfort and activity maintained that must be seen to be believed.

Mr. F., aet. about seventy-six. During the winter of 1892, he was disabled—house-ridden—by syncopal tendencies, dyspnea on slight exertion, cough and expectoration of mucus, orthopnea, precordial distress and a sense of oppression that entailed marked suffering. The semirecumbent position in a Morris chair was his daily habitat. Meals were served him in his room, because of the distress accompanying efforts at ascending the stairs. Superficial veins, especially the temporals, were tortuous and distended. Pulse easily compressible, and the rate 108. Cardiac sounds feeble, and the long pause abridged so as to divide the time between beats about equally. Digestive functions impaired. Under 20-minim doses of digalen-Cloetta four times daily, improvement gradu-

ally continued, so that after three months ability to resume a relatively active life, and comfortably, was established. At present, there are present arrhythmia, bronchial hypersecretion, dyspnea, and symptoms generally of failing compensation; which are, however, bettering under 25-minim doses of digalen four times daily, and 1-200 grain of cymarin twice per day. When nearly twenty-three years of relatively useful and comfortable life is thus shown to have been established, the value of the treatment is self-evident.

Mr. H., aet. fifty. Two years ago he showed evidences of premature senility. Mental ability in business markedly failed. Physical activity precipitated undue fatigue. Respiratory distress hindered daily activities. Dry cough; thoracic oppression accompanied walking but a few hundred feet, and to ascend stairs caused panting for breath and a sense of exhaustion truly distressing. Cardiac action tumultous. Digalen-Cloetta, in 30-minim doses four times daily, effected phenomenal relief in a few days; whereupon the doses were reduced one-half, and are so being continued. No valvular lesions. Cardiac rhythm regular, and, on examination now, would not lead one to believe that the condition of two years ago ever had existed. The patient is attending to his business, as traveling salesman, under comfortable conditions.

Infections of the Eye

Suggesting Methods of Treatment

By Thomas G. Atkinson, M. D., L. R. C. P. (Lond.), Chicago, Illinois

EDITORIAL NOTE.—Doctor Atkinson has contributed a series of articles upon common diseases of the eye to "Clinical Medicine" during the year just drawing to a close. He is anxious to give any assistance in his power to physicians who may be interested in this topic. If you have questions you wish answered, write him.

FROM a clinical standpoint, all infections of the eye may be reduced to two classes, namely: those in which the pathology is limited to the external structures, the conjunctiva and the cornea, and those in which the inner structures become involved, including the iris, lens, ciliary body, and so on. Various pathogenic germs play a causative part in these infections; and, as a rule, the type and virulence of the invading germ determine whether the damage will be confined to the outside structures or will penetrate the inner eye. This, however, not always holds good. Sometimes the mildest infections, as to bacterial type, penetrate the outer membranes and attack the inner tissues, because of a break, mechanical or functional, in the resistance of the outer structures; while occasionally a very virulent type of invasion may expend its damage entirely upon the outer membranes, without penetrating into the inner eye.

Conjunctivitis

The conjunctiva, naturally, is the more susceptible of the two external structures, because of its vascular character; fortunately, though, it is, for the same reason, the more resistant.

The simpler forms of conjunctivitis mostly are occasioned by an invasion of the pneumococcus, the streptococcus or the colon-bacillus, or of perhaps all three together, and, less commonly, of the hemophilic bacillus. As a rule, the resulting inflammation is comparatively mild, manifesting itself in a moderate degree of a brick-red infusion of the membrane, especially of the lower palpebral portions, considerable itching, rarely any real pain, but a scratchy sensation as of sand in the eye. There is, of course, much watering of the eye, which later becomes mucopurulent, especially in the mixed infections.

The differential diagnosis between conjunctivitis and keratitis is simple enough, even if but a moderate degree of care and intelligence is brought to bear. Thus, the congestion of conjunctivitis is superficial, diffuse, of a brick-red appearance, and regular tracing of individual blood-vessels is not possible. The congestion of keratitis, on the other hand, is deep-seated, of a dark cherry-red color, and the regular lines of the ciliary vessels around the cornea are plainly discernible.

Of much more importance is the distinction between the various bacterial forms of conjunctivitis. As stated, the nature can be roughly guessed at by the mode of onset and the severity of the symptoms; still, no physician in these days is justified in relying upon these indications. The only safe method of diagnosis is the resort to the microscope; and no time should be lost to do so, no matter how

mild and innocent the appearance of the trouble; for, if the case should chance to turn out a virulent one, every hour that you have lost subtracts seriously from the probability of recovery.

In *every* instance of an inflamed conjunctiva coming to your attention, be sure to take a smear, at the same time gently but firmly declining to express an opinion until you have examined that smear under the lens. If it turns out to be a simple culture of the pneumococcic or colon or influenza or an equally simple mixture of two or three of these varieties of bacteria (the staphylococcus and pyogenes aureus—rarely albus—will always be present, of course, when there is pus), your diagnosis will be in accordance, and your prognosis favorable, provided the patient is otherwise in good condition and you cannot discover any wound in the conjunctiva or cornea. If, on the other hand, the microscope shows the Klebs-Loeffler bacillus or the gonococcus, both your diagnosis and your prognosis must be very grave; and, incidentally, your time for effective action is exceedingly short.

Assuming that the smear shows a simple pneumococcic or influenza or mixed infection, the treatment is equally simple. Irrigate the eye thoroughly with a normal salt solution, or, better still, with a 1 : 5000 bichloride of mercury solution, followed by normal saline solution, then instil a few drops of a 15-percent argyrol solution. Also prescribe the latter to be instilled, by the patient, a few drops every four hours, instructing him how to wash out the eye with a weak salt lotion (a pinch of salt to a glass of tepid water) before putting in the argyrol. If the patient is obliged to be outdoors or at work, it is better that he wear a pair of goggles, to protect the eyes from dust. These simple measures, as a rule, will cure a case of mild conjunctivitis in a few days.

Supposing, however, that the microscope discloses the diphtheria-germ or (what is much more common) the gonococcus, then your course must be a great deal more vigorous. As a rule, the symptoms are much more violent, and this, of itself, calls for far more energetic treatment. Furthermore, the dangers to the eye are grave and imminent. A gonococcal infection can, and often does, destroy an eye in twenty-four hours. There is no time for dallying.

The first thing to do, assuming that but one eye is infected, is, to seal up the other eye immediately with an airtight shield, so as to protect it against invasion. *Do this before anything else.* A very simple and effective shield can be improvised by cutting a circular piece out of a square of strapping-plaster, and setting into it an ordinary watch-glass, the whole then to be strapped firmly and adherently around the patient's face and nose. Needless to add that you are to take equally assiduous pains to protect your own eyes during your contact with the patient, by wearing goggles, disinfecting the hands, and burning up every piece of gauze and other material used in the treatment.

Now irrigate the infected eye *thoroughly* with a 1 : 500 solution of potassium permanganate, lightly bandage the eye, and direct the frequent application of ice-bags to control the inflammation. Inspect the eye at least every hour or two, and, if it appear to be doing well, repeat the foregoing procedure every three hours. If, however, at the end of twelve hours or so the eye is not improved, instil a saturated solution of methylene-blue, washing away the excess. This, of course, will color the membrane, but that soon wears out, while often it renders amenable an otherwise intractable case. It is an excellent germicide and absolutely harmless to the eye-membranes.

When the very acute symptoms have subsided, the cold applications must be stopped at once, as they are likely to impair the nutrition of the cornea. Indeed, if the cornea is involved in the infection from the start, cold must be used with great caution. In the later stages of the disease, if there is corneal infiltration, hot fomentations are advisable. Upon the subsidence of the swelling and angry symptoms, instil a 1-percent solution of silver nitrate, or, better still, brush it on the everted conjunctiva, once a day, until the patient is well, or, what is more likely to be the case, until no further improvement is attainable.

The treatment of a diphtheritic conjunctivitis is substantially the same as that of the gonococcal variety; except that injections of antitoxin may be added.

In all the varieties of conjunctival infection, an autogenous vaccine, or a stock vaccine (polyvalent) of the kind indicated by the bacterial field, constitutes an excellent adjunct to the local treatment, except in the gonococcal. In the latter, however, a staphylococcus vaccine often does great good.

Keratitis

Infections of the cornea may result from any of the causes that produce conjunctival infections, and may or may not be associated with conjunctivitis. Usually there is more or

less inflammation of the conjunctiva. However, keratitis is, of itself, never so acute or violent as conjunctivitis, because of the lack of vascularity of the cornea. But, for the same reason, when the latter *is* attacked, its continuity almost always is broken, with resulting ulceration; and not infrequently it is penetrated, communicating the infection to the uveal tract.

The differential diagnosis of keratitis from conjunctivitis has already been given. The bacterial diagnosis is to be made, as in conjunctivitis, by means of the microscope.

By far the greater number of cases of keratitis, as we might expect, are not primary infections from the outside, but secondary manifestations of constitutional diseases, as in interstitial keratitis; and the surface lesions are sheerly the work of staphylococci and streptococci acting upon a low-resistant tissue. The microscope will show this.

For the inflammatory symptoms of keratitis, the treatment is substantially the same as for simple conjunctivitis. Irrigate the eye with some mild antiseptic, such as a 1 : 5000 mercury-bichloride solution, followed by normal salt solution, then instil an astringent. For corneal infections, however, the zinc salts should be employed instead of those of silver; a 1-2- to a 1-percent solution of zinc sulphate or a 1 : 1000 zinc-chloride solution forms an excellent astringent in keratitis. As usually there is photophobia, it is well to let the patient wear tinted spectacles.

The rest of the treatment is directed toward preventing ulceration, or, if ulceration has already taken place, to preventing perforation and bringing about resolution of the ulcer. There is but one positive treatment that promises to obviate ulceration, namely, instillation of atropine (4 grains to the ounce) twice daily, thus procuring sedation of the cornea, resting the ciliary muscles and the iris, and drawing the iris up out of harm's way. Every case of keratitis should be atropized as soon as seen, and kept under atropine until recovery.

The negative indications are of such great import, and are so commonly ignored, that I feel like spreading them all over the page in big capitals.

Of all the diseases in the catalog, there is none in which it is so essential to know *what not to do*, and then *not to do it*, as in corneal infection. The philosophy of the matter is, really, very simple. Nutritionally, the cornea is a low-grade tissue, the resistance of which lies in its inertia. Hence, its inertia is its own best protection against damage, and your best ally in the defensive campaign. The practical aspect of the matter is equally simple. However eager and impatient you may feel to "do something," *don't do it*. Do nothing, in fact, beyond the few simple measures recommended above, until the actual occurrence of ulceration calls for it.

When ulceration takes place, the situation is completely reversed. The inertia of the cornea, which before was your ally, is now against you. Just as the cornea showed no inclination to react to damage, so, by the same token, it will, of itself, show no disposition to recovery. You will have to institute positive measures in order to stimulate resolution of the ulcer.

Three agents, in my opinion, are available, each to be employed in the order named, according to the severity of the lesion, namely, trichloracetic acid, iodine, and cautery. If you see the ulcer at its earliest stage or if it be a mild superficial ulcer, touch it, by means of a little cotton wrapped around an applicator, with a 10- or 15-percent solution of trichloracetic acid. This will immediately render the ulcerated tissue opaque, giving it the appearance of the white of an egg; but in two or three days this opacity will have disappeared and the ulcer probably be much improved. If this be so, repeat the procedure, say, twice a week or once a week, until healed.

If the ulcer be more than superficial when you first see it, use undiluted tincture of iodine, in place of the trichloracetic acid, until improvement is marked, and then change to the acid. And, if the ulceration be deep and extensive, cauterize it either with a silver-nitrate stick or with the actual cautery, for the first time or two, until it is sufficiently stimulated to bring it within range of the other measures.

Do not apply cocaine in keratitis, as it has a degenerating effect upon the cornea and induces ulceration and perforation. And—still more important—on no account ever employ solutions of lead, for they form an irremediable opaque combination with the corneal tissue.

Internal Infections of the Eyeball

Infections of the interior of the eye are, of course, far more serious affairs. The simplest form is that in which the iris alone is involved, known as iritis; the severest, that in which the entire eye is infected, or, panophthalmitis. And there are all manner of grades between, including iridocyclitis, uveitis, and so on. These are either extensions of an external

infection, through ulceration and perforation, or else are metastatic expressions of a general infection, such as rheumatism, tuberculosis, and syphilis.

With the exception of panophthalmitis, of which more later, the exact diagnosis of the different grades and extension of internal involvement is not very easy. These things have largely to be guessed at, from the severity of the general symptoms.

In all forms and degrees of internal infection, there are present pain, photophobia, dimness of vision, and circumcorneal injection. Objective examination shows dulness of the iris, with more or less exudate, perhaps adhesions, and cloudiness of the humors; and this cloudiness it is which obscures any further diagnosis, because ophthalmoscopic inspection cannot penetrate it. Consequently, all one can really distinguish by such inspection is an iritis or a cyclitis, as the case may be. If all the accompanying symptoms, especially the loss of vision, are severe, one is pretty safe in concluding that there is an iridocyclitis; if very severe, it is probable that there is a general uveitis.

The treatment of the attendant external inflammation is that which has already been recommended for conjunctivitis and keratitis. Zinc salts are the astringent of choice. Hot fomentations are excellent, as they promote absorption of exudates and local leukocytosis. Atropine, 4 grains to the ounce, instilled night and morning, is the *sine qua non* of successful treatment; it puts both the iris and the ciliary muscles to rest, thereby relieving pain and promoting absorption, while it draws the iris up out of harm's way, thus avoiding adhesions, the bugbears of ophthalmologists. Dionin, in 5- or 10-percent solution, frequently is of great service. Put not alone his eyes, but the patient himself to absolute rest—the patient recumbent, the diseased eye lightly bandaged.

Beyond these measures, there is little you can do locally for internal ocular infections. If the trouble be the extension of an external infection, a vaccine or serum, as determined by the bacterial findings, will be of great help. If it be part of a general systemic infection, then the treatment of the underlying trouble is an indispensable factor in successful management of the eye condition. Frequently sweating is beneficial, because it acts as an excellent stimulant of the glandular functions of the body.

Do not forget the importance, in all eye infections, of a thorough catharsis. Clean the gastrointestinal tract with calomel or phenolphthalein, or both (thalocal is an excellent combination), followed by a saline laxative for three or four successive days. In the severer infections, especially where the resistance is poor, hypodermic injections of nuclein are invaluable.

Panophthalmitis

Panophthalmitis stands in a class by itself. It may be the end-result of an internal infection such as we have previously considered, but much more often is the result of a penetrating wound of the eye. The important thing is, to be able to diagnose it. Generally the disease is ushered in by a rise in temperature and by general febrile symptoms, including headache and even vomiting. There is severe pain in the eyeball, rapid loss of sight, intense congestion, both conjunctival and ciliary, marked chemosis, and great redness and swelling of the lids. Tenon's capsule becomes infiltrated, causing protrusion of the eyeball and limitation of its movements. Pus usually breaks through the anterior portion of the sclera, after which the pain subsides, and in a few weeks the disease has run its course, leaving a shrunken, sightless eyeball.

During the acute stages, the only available treatment is, to relieve the pain by means of hot moist compresses and to incise the sclera, so as to permit escape of the pus. As soon as the inflammatory stage has passed, but not before, enucleate the eyeball, in order to avoid sympathetic disease of the other eye.

The Medicine of Tomorrow

By Simon J. Young, M. D., Valparaiso, Indiana

[*Continued from October issue, page 939.*]

America Will Fall in Line

IT is only a question of time when socialized medicine will be established in this country. The need for it is here, and this need is recognized by thinking men in our profession. At a meeting of the Academy of Medicine, in 1909, Dr. Woods Hutchinson expressed himself as follows: "Our present system of medical attendance is a makeshift and an anomaly. Born in an emergency and tinkered up at odd times, it has never been properly planned out or thought through. It combines the maximum of expense to the patient and of loss by all sorts of accidents to the physician, with the minimum of health production and disease prevention."

This is a severe arraignment, but it is true.

In a recent address, E. P. Lyon, dean of the medical school of the University of Minnesota, discussed the social status of medical practice. This address is a clarion call that eloquently proclaims the need for socialized medical service. It is pregnant with great thoughts, and ought to be widely read by the medical profession. Thus, after a discussion of our present individualism Doctor Lyon says:

"The other point of view is altruistic, or, if you prefer, collectivistic. It says that the social order (widely or narrowly considered) is responsible for those accidents which we call sickness and lack of employment. It looks upon disease and old age exactly as we have all come to look upon fire and burglary and the hazards of the sea. It says that society should carry the burden of all these exigencies. The individual should not be released, but he should bear only his share of the load. All this, broadly considered, is insurance. It may be government insurance, paid for by taxation, such as the protection afforded by the army, the police, the fire-department. It may be corporation insurance, such as our ordinary types of life-, fire-, and tornado-protection. It may be cooperative insurance, as in fraternal orders and friendly societies.

"Whatever its form, the philosophy of insurance is, that each participant contributes in proportion to his share of the risk. Not all receive back what they put in. Of a thousand houses insured, we expect only a few to burn. But the man whose house burns receives a much larger sum than he paid in. He receives it gladly and with no stigma of dependence, as would be the case if his friends took up a collection to pay for his house. Surely, this form of protection should apply as usefully and properly in meeting the exigencies of accident or disease as those of fire or theft." "This question," he says, "has not assumed large proportions in this country, but I am certain that it will do so in the not distant future."

The need of a salaried medical profession is discussed by Vogt in a recent number of *The Popular Science Monthly.*

Victor C. Vaughan, president of the American Medical Association, chose for his annual address the subject, "The Service of Medicine to Civilization." He cites proof that ancient civilizations owed their decline to epidemics more than to any other factor, and says: "The *greatest asset of any nation is the health of its citizens*, and the people who secure this in the highest degree will dominate the earth."

Let me quote also from Warbasse, who writes: "The socialization of medicine is coming. The time now is here for the medical profession to acknowledge that it is tired of the eternal struggle for advantage over one's neighbor. The value of cooperation in science is proved. Medical practice withholds itself from the field of science so long as it continues a competitive business. Its full possibilities will be realized only when its whole effort is expended in the conservation of human health and life."

Allan has written convincingly upon state insurance against sickness; and here and there other voices are being raised in support of some phase of this question.

Recently there appeared in the weekly Report of the Public Health Service a paper by Warren, wherein is presented a comprehensive plan for the establishment of sickness insurance. This paper was prepared under authority of the United States Commission on Industrial Relations. I wish I might quote extensively from it, for it proves definitely the need of such a service. It also presents a workable plan based upon exhaustive study of the entire question.

The crying need of medicine today is, organization for efficient service. Such organization never will come from our present competitive system. We multiply the cost of service in every conceivable way. We

make it impossible for three-fourths of our patients to get a correct diagnosis, because self-interest bars the cooperative effort necessary to make such a diagnosis possible. We waste our efforts in individual combats with disease, where we ought to mass our forces and annihilate it by a concerted attack. We not only are wasting our ammunition, but we are losing caste among our patients.

Meantime both morbidity and mortality are on the decrease, thanks to socialized public service in preventive medicine, and simultaneously our incomes are gradually decreasing. At the same time society demands—and rightly—that we assist in this process by giving more time to disease prevention. I say this is right. It should be so. I claim, further, that society, being the beneficiary, ought to pay the bills. We can not longer separate preventive and curative medicine. We have partly socialized the one; we must, eventually, combine and socialize the whole service.

The medicine of tomorrow will do this. It will take into account the fact that charity is a social folly. It will guard the health as well as the lives of the people. It will be an organized social service, with central stations in every community—hospitals, laboratories, research-centers, dispensaries, all at the service of the people and manned by groups of physicians on full-time pay. Every facility of modern science and every specialty will be at the service of the citizen upon equal terms, and the cost will be distributed in such a way that no one will feel it a burden. The medicine of tomorrow will constitute an organized service for the betterment of mankind, and not the least of its beneficiaries will be the physicians themselves.

Some Considerations Conducive to Higher Citizenship

As Applied to Medicine and to Physicians

By D. A. Buck, M. D., Laporte, Indiana

IF WE pause for a moment, take a retrospective view of life and turn the pages of history, we are astounded when we contemplate the marvelous evolution of man, and his physical, but more especially his mental and moral, development. History has witnessed the rise and fall of great cities and empires: Thebes, the most ancient city of the world, Babylon, Rome, Athens, and Machu Picchu (the last, according to recent archeological explorations, probably "the cradle of the Incas"), but illustrate the "Hand of Destiny." History is prone to repeat itself.

The present era of industrial, commercial, mental, and moral progress represents the most advanced epoch of civilization since the dawn of creation. Within the minds of many thoughtful persons the question arises: Is this evolutionary advance to continue or are we today facing the beginning of a period of retrogression—a physical and mental decline? The insatiate desire for wealth and power, the strenuosity of social and economic conditions of life involve such an expenditure of physical and nervous energy that physicians, particularly, are compelled to stop, to ponder and ask: Is it possible for the human machine to stand the stress and strain placed upon it? And if not, then we, as physicians, and others interested in the welfare, the uplift and progress of humanity should seek and advocate such measures as are conducive to the perpetuity of the race and to higher citizenship.

Religious wars and wars of conquest, founded upon ignorance, avarice, and inhumanity, have been the cause of a frightful loss of life, while a lack of knowledge concerning the causes of diseases and their treatment, and ignorance regarding sanitation and the laws of hygiene have resulted in most fearful epidemics, the complete destruction of cities and the decimation of entire communities.

We of today, who are fortunate in being here, in America, are living in a period of great achievement; we are riding the crest of a high wave of accomplishments. The whir of the aeroplane is heard—we look above, and it vanishes in the distance; the shrill scream of the locomotive and the honk, honk of the automobile grow fainter as they rush by, carrying their cargoes of human freight. But on the horizon dark clouds are lowering and low mutterings are heard, which proclaim the gathering of an oncoming storm.

The Tragic Increase in Chronic Disease

Despite a remarkable mortality decline—with a rate fallen as low as 9 per thousand in the Canal Zone, a point never before paralleled in history; despite an increased efficiency in the therapeusis of malaria, yellow-fever, mountain-fever, ankylostomiasis, diphtheria, tuberculosis, typhoid-fever, smallpox, syphilis, African sleeping-sickness; despite improved sanitation in every direction, we witness a rapid increase in carcinoma and sarcoma, in nervous and mental diseases and imbecility; some authorities even asserting that "the world will be turned into a madhouse unless existing conditions are remedied." Psychoses, neuroses, intemperance, drug-addictions, social evils, poverty, and crime—all these denoting race deterioration—stare us in the face; they fill our almshouses, overflow our psychopathic hospitals and homes for the feebleminded, crowd our penitentiaries; with the consequence of increasing the burden of taxation and adding to the sum-total of unhappiness. And I ask you, fellow physicians, what are we going to do about it?

The two great factors essential to the solution of this problem are, proper legislation and rational education. It is not the purpose of this paper to enter into a discussion of necessary legislative enactments—except to mention incidentally a few more important measures demanding attention—but, rather, will I deal with the educational phase of the question, for herein lies our hope for the future.

The Threat of Alcohol

The paramount evil threatening civilization is intemperance. Its offsprings are, disease, poverty, crime, and unhappiness. So-called heathen China has risen in her supreme majesty and forbidden the use of opium among her subjects. But, the inroads made upon physical, mental, and moral stability by King Alcohol are far greater and more lasting than the havoc wrought by opium. Will intelligent and civilized America arise to the occasion and establish national prohibition or pass and enforce stringent liquor laws? That is the most important question that concerns the people of this country.

There are other needed reforms, and among these are: the abolition of stock gambling and corporate overcapitalization; the establishment of a national department of health; uniform marriage and divorce laws for the several states; an efficient law requiring the medical examination of candidates for marriage; a system of taxation that will prevent the concentration of wealth in the hands of a few; a just and adequate wage scale for various forms of labor; laws requiring the periodic medical examination of the well. These are a few measures conducive to greater national health, happiness, and prosperity.

The greatest asset of any nation is its citizenry; and the fundamental principle underlying all governments is, the making of good citizens. The physical, mental, moral, and economic development of a people depends largely upon the health of its citizens; but, how sadly our government, in the widest sense, has neglected its duty, is apparent to all thoughtful persons interested in race-betterment.

The Progress of Medical Science

The remarkable advance and conquest of knowledge in the science of medicine and surgery, through discovery and invention and through experience and experimentation, has been the most wonderful achievement within the realm of presentday civilization. Not only governments of the world, but the consciences of well-informed individuals have been quickened and awakened to the full realization that the medical profession has accomplished much for humanity, and is capable of accomplishing more. A greater spirit of cooperation, an increased respect and consideration for our opinions manifests itself among many people; for, on our profession devolves the responsibility of solving many weighty and difficult problems.

From the tenor of these remarks, you doubtless infer I am an avowed pessimist; but this is not so. In yon linden-tree is heard the warbling of a songbird as its throat swells in ecstasy, and the babbling meadow-brook laughs merrily as its waters wend their way to the distant sea; all nature smiles and the world is glad.

Few pastures lie forever verdant 'neath pleasant sky,
When rains descend and threatening storm-clouds lower,
Then swells the budlet of each tender flower.

The Problems of the Public School

Many articles have appeared in the lay press during the past few months, bitterly attacking our public-school system and in some instances calling it a failure. I am not at all in sympathy with such unjust criticism and stringent strictures, for the American public school is the hope of our country and the bulwark of civilization. On the other hand, conditions of today, with our ever-increasing urban population teem-

ing with industrial and commercial activity, are far different from those present during the days of our forefathers.

Ninety-five percent of the young people of our public schools will earn a livelihood by some form of manual labor. Millions upon millions of these children do not get further than the fifth or, at most, the eighth grade, and this primarily due to defective conditions of health. Possibly 3 percent of the entire school population graduate from the highschool, and of these graduates but a small fraction enter the university and other higher institutions of learning. There are about 260,000 schools in this country, costing annually nearly $500,000,000 to maintain. Obviously, the greater part of this enormous sum is not being judiciously expended for the best interests of the many.

Specialism has spread from the highschool into the grades, until today there is a specialist for nearly every subject taught. Naturally, each subject is being taught more thoroughly, thus requiring an increased expenditure of time in outside study. Overstrain and cramming result, to the detriment, oftimes, of the normal child, while the deficient child becomes discouraged and leaves school. In fact, our entire educational system of instruction is outlined for the normal and the exceptional rather than for the average child; and, as above stated, a large portion of this vast sum annually spent for education is injudiciously expended.

Now for the remedy.

We need a radical change as to the character of instruction in our public schools; in other words, we must introduce a vocational system of instruction. Farming communities should have instruction in scientific methods of agriculture, in horticulture, and in stock raising; and, indeed, such schools already are being established in many places. In the cities, we need more technical and trade-schools, and a greater emphasis must be placed upon manual training and domestic science. These latter two courses should be made compulsory upon the part of the boys and girls, respectively, and as many hours credit should be given proportionally toward graduation as if the pupil studied Latin or Greek. A system of educational instruction founded upon the capability and requirement of the child will make a useful and industrious citizen and will prove a potential factor in social uplift and all that is conducive to higher citizenship.

As previously stated, good government is dependent upon the health of its citizenry. It was Rousseau, the great French educator, who in the eighteenth century first laid the foundations for the teaching of school hygiene. He was followed shortly by Locke, of England, and Frank, of Austria, while in the nineteenth century Lorinser, of Germany, and Ling, of Sweden, introduced hygiene into the schools of these countries; and since that time the teaching of hygiene and the medical inspection of schools has been universally recognized throughout Europe. In the United States within recent years, the medical inspection of schools has received a tremendous impetus, until now twenty states have incorporated into their statutes some form of medical school-inspection law.

The school-inspector should be a physician of some years' experience, with a wide grasp of public affairs, a lover of childhood, and he should possess a knowledge of the fundamental principles of psychology. His duties are varied and many, and include the tabulation of reports and records. He should possess some knowledge of the construction of school-buildings and also correct ideas concerning heating, lighting, seating, ventilation, and plumbing of these buildings. Besides, he should have an efficient corps of assistants who would make special examinations and recommendations concerning eye, ear, nose, throat, dental, physical, and mental conditions of the schoolchildren.

Some people very properly may ask why the necessity of this innovation and increased expense? Kerr, of England, and others, in an examination of 50,000 schoolchildren, found 20 percent had defective eyesight. In 1906, of 78,401 pupils examined in New York City, 71.7 percent had defects or diseases partly or wholly amenable to treatment. Allport states that there are approximately 20,000,000 schoolchildren in the United States. Of these, about 90 percent have decayed teeth, 6,000,000 have adenoids and enlarged tonsils, 5,000,000 suffer from anemia and malnutrition, 5,000,000 have defective vision, 1,000,000 have defective hearing, about 1,000,000 are tuberculous, and 500,000 have some form of organic heart disease. About 3 percent of our school-population are mentally deficient.

The Burden We Carry

It costs the United States an expense of $100,000,000 annually to educate 3,000,000 "repeaters" who have impaired health, and, in addition, $15,000,000 is expended to care for 300,000 blind in various institutions.

Today, nearly 200,000 persons in this country are dying of some form of tuberculosis, and by January 1, 1915, a total of 500,000 cases of typhoid-fever will cost its victims $100,000,000 for the year 1914. Insanity costs the people $94,000,000 each year, while it requires almost an equal amount to educate and care for the feebleminded. It is conservatively estimated that the annual economic loss due to preventable disease and death amounts to $1,500,000,000.

Good health is the greatest blessing of mankind. Honor and fame, riches and power can not be compared with this priceless gem. Ignorance of the people concerning the laws of hygiene, of physiology and of health, ignorance of the laws of heredity, ignorance of the cause of disease and its effects, and, in addition, ignorance of the true motives of the physician and his relation to the laity imperatively demand that the public be educated.

We, the medical fraternity, represent the noblest, the most scientific, the most learned, the most self-sacrificing of all professions. Upon us devolves the necessity of doing our fullest duty, fearlessly, conscientiously, cheerfully, for the uplift and betterment of humanity.

In conclusion, I wish to leave with you this thought from "The Ruins," by Volney. His words are so all-inclusive, and withal are today as pregnant with wholesome meaning as they were when written one hundred years ago. These are his words:

"Instruct thyself, moderate thyself, preserve thyself,
Live for thy fellow-citizens, that they may live for thee."

IN AUTUMN WOODS

By GEORGE BIRDSEYE

Now ankle deep in mottled leaves
That o'er me cast their trembling shower,
Through rustling paths of autumn woods
I rove a meditative hour.

Soft melodies move 'round my feet
And fill the air far overhead;
Low whispering voices passing by—
The spirits of the summer dead.

With them I muse on memories,
Unconsciously with theirs in tune;
And, as in dreams, go back to days
When life was in its joyful June.

The spaces in the leafy roofs
Have wider grown; sunshine has found
Free passage, and, through gay tints, throws
A shattered rainbow on the ground.

A shattered rainbow—ah, how like
The fate my youth's ideals found!
Those glorious dreams! What are they now?
A shattered rainbow on the ground.

On tree tops each forsaken nest
Looks lonely, now the birds have flown;
Not even by a murmur blest
Of loving songs it once has known.

So joys of old no longer thrill
My heart, as once, with rapture strains;
And, where they chanted, all is still—
The silent nest alone remains.

Days fall like leaves, and mine grow brief—
The woods and I are growing old;
But what remains, of life or leaf,
Like these, may heaven change to gold.

What Others are Doing

EXPERIENCE WITH MINERAL OIL

In an editorial comment in *The Medical Review of Reviews* (July, 1915, p. 422), the writer states that about 20 percent of patients taking mineral oil for the treatment of constipation complained of a slight degree of nausea. In two instances, vomiting was reported to have taken place; the latter being most likely to occur in patients suffering from gastric stagnation, where there is retarded emptying of the stomach. The stools under the oil-treatment were soft, usually formed, sometimes mushy—their consistency varying with the dose—and obviously greasy. They had a peculiar odor, described as sour.

One disagreeable effect complained of by many was, that there was a leakage of oil from the anus, this often being sufficient to keep the neighboring skin in a greasy condition and not infrequently staining the clothes.

In view of these manifest disadvantages, it is suggested that the oil be used in the form of an aromatized emulsion. In this form, it is more palatable, hence, less likely to produce nausea; also, because of its more intimate mixture with the stools, the dose of the oil required is smaller and the probability of anal leakage is reduced.

BACTERIN-TREATMENT OF ECZEMA

Every case of eczema begins as a dermatitis, the cause of which may be some mechanical or chemical irritant, food-poisoning or nervous or mental disturbances. This dermatitis is transformed into an eczema through bacterial infection; the organisms ordinarily present being the staphylococcus aureus, staphylococcus albus, and a streptococcus—singly or predominantly in the order mentioned. The staphylococcus aureus is uniformly present. This is the theory, as to the etiology of this disease, advanced by Leon S. Medalia in *The Boston Medical and Surgical Journal* for August 5, 1915 (p. 187).

Working upon this hypothesis, Doctor Medalia has been treating his patients with vaccines, in association, of course, with other proper measures designed to remove the underlying cause, whether that be of a mechanical, chemical, dietetic or metabolic nature. He reports on 51 patients treated, of whom 43 were cured by this method; while of the rest 6 were improved, in 1 there was no improvement, and in 1 the result is not known.

In these cases, an autogenous bacterin is used by Doctor Medalia, and the doses employed by him are exceedingly large. He has found that at least 6000 million organisms of the autogenous bacterin are necessary to effect a cure. A much smaller number of the streptococci are used, providing they are found present. Should this latter organism seem to be a factor, a separate bacterin must be prepared from it.

However, Doctor Medalia does not begin treatment with the enormous doses above mentioned. It is his custom to initiate treatment with 250 million of the staphylococci or with 25 million of the streptococci, increasing the count by 50 percent at each succeeding injection. The average number of injections given was 12; the average duration of treatment was eleven weeks. In acute cases, the doses were repeated every twenty-four hours, and in subacute or chronic cases, at intervals of from three to seven days.

The dosage should be large enough to cause a general reaction; and if the local reaction at the point of injection in the upper arm persists more than twenty-four hours the dose should be diminished rather than increased.

WHAT TO DO FOR A "BLACK EYE"

According to Richard Kalish (*Med. Rec.*, Sept. 18, 1915, p. 467), that ancient remedy, "raw beefsteak," is of no more value in the treatment of black eye following injury to the soft parts around the eyeball than any other of the numerous disgusting domestic remedies so often recommended. These applications, he declares, are of no value whatever, a statement which may be too sweeping in view of their poultice-action and their centuries of good repute.

If one sees the eye immediately after the injury has been inflicted, the best treatment, according to Doctor Kalish, consists in the application of a pad made of six or eight layers of gauze, saturated with a solution of boric acid and bandaged tightly over the eye. A folded handkerchief can be substituted, if preferred. Discoloration following these injuries, when once established, cannot be dissipated. Painting the skin with a flesh-colored pigment is the only satisfactory method of meeting this exigency. This discoloration lasts about two weeks.

FOREIGN BODIES IN THE CORNEA: HOW TO FIND AND REMOVE THEM

In order to locate a foreign body in the eye, especially if it is adherent to the cornea, local anesthesia must be produced, and for this purpose Kalish (*Med. Rec.*, Sept. 18, 1915, p. 467) prefers a 1-percent solution of holocain; cocaine, he declares, dries the cornea, loosens and promotes necrosis of its epithelium, and thereby favors ulceration.

After the local anesthesia is secured, the patient is so placed that the eye is lighted from one side only, the daylight rays or the artificial light being concentrated upon the surface of the cornea with a 3-inch lens. By changing the position of the illuminated area or by directing the patient to move the eye slowly in various directions, the entire surface of the cornea may be examined.

If no foreign body can be found, but the symptoms point to the presence of one, despite the practitioner's failure, Doctor Kalish recommends the instillation of a drop or two of fluorescein-solution. A good formula is that recommended by Brav in *The New York Medical Journal* for September 18, 1915 (p. 600), namely:

Fluorescein	grs. 2
Liquor of potassa	dr. 1
Water, distilled	dr. 1

After this collyrium has been instilled, the eye should be washed out with a boric-acid solution, whereupon any abraded surfaces as well as the intruder itself will be found to be stained green or greenish-yellow.

In removing the foreign body from the cornea, great care must be taken not to do injury to the corneal epithelium. In most cases, the stranger can readily be displaced with a mop made by wrapping a bit of absorbent cotton around a toothpick. The foreign body, if it resists removal, is to be approached with the mop from various directions. If so firmly imbedded that it resists this manipulation, a blunt spud may be tried, and only in the event of its failure is one justified in resorting to a sharp spud or corneal curette. If the foreign body is a bit of iron or steel and a ring of stained corneal tissue is deposited around it, an effort should be made to remove this tissue, so as to prevent permanent discoloration.

Following the removal of the foreign body, especially if there is considerable destruction of corneal epithelium, and there is some pain, Brav (already cited) recommends covering the eye with a protective bandage and the application, several times daily, of hot compresses. Also, the eye must be kept at rest; this being accomplished by the instillation of a 1-percent solution of atropine sulphate; this is best combined with some analgesic, as in the following formula:

Novocain	gr. 1
Atropine sulphate	gr. 1
Distilled water	drs. 2

One drop of this solution is to be instilled into the affected eye every three hours.

These simple directions are of special value to the general practitioner, who ordinarily is called upon first to treat these simple injuries.

EXPLANATION OF THE EPILEPTIC PHENOMENA

True epilepsy and numerous forms of cortical epilepsy do not as yet in any way admit of any clinical differentiation, as C. Bolten, The Hague, points out in the *Deutsche Zeitschrift fuer Nervenheilkunde* (cf. *Muench. Med. Woch.*, Jan. 26, p. 120); who then proceeds to say:

The former must be considered a chronic autointoxication, produced by products of metabolism that have not been completely detoxicated, because of an underfunctioning of the thyroid gland and epithelial bodies. (Rectal administration of expressed juice of those organs is asserted to lead to permanent cessation of the pathologic phenomena.)

Cerebral epilepsy occurs as a sequel to all manner of diseased conditions of the meninges, the cortex, and more deeply-seated tissues, if the disease gives rise to extensive circulatory disturbances in the cortex, whether conditioned by general increased blood pressure or by local sclerosing processes. In this way, an accumulation of metabolic products takes place in the blocked region.

Consequently, the factor common both to true and to cerebral epilepsy would be, the damaging of the cortex by toxins of metabo-

lism. And, further, the outburst of an attack would represent a reaction of the organism, an effort to rid itself of the accumulated noxious products.

This theory suggests one somewhat similar, recently advanced by Dr. C. A. L. Reed of Cincinnati, who looks upon epilepsy as an intoxication-disease, resulting from the action of bacteria present in the intestinal canal. He believes it curable by a Lane operation, possibly by bacterins. And all this reminds *us* of the importance of our slogan: "Clean out, clean up and keep clean."

ADVANTAGES AND DISADVANTAGES OF HYOSCINE-MORPHINE ANESTHESIA

In an excellent paper appearing in *The New York Medical Journal*, for August 7, last, page 296—a paper which evidently was written after a very extended experience—Robert T. Gillmore, of Chicago, asserts that the overwhelming advantages of hyoscine in operating upon adults and in obstetrical work more than counterbalance the comparatively few undesirable complications that may follow. In surgical work, for instance, Doctor Gillmore declares, "it is hardly necessary for us to be reminded of the great advantage in the ultimate recovery of patients if they are able to go to the operating-room in a tranquil, drowsy slumber, rather than suffering acutely from the fear and anxiety incident to operation."

Other advantages of using hyoscine-morphine anesthesia prior to surgical operations are as follows:

1. There is much less danger of surgical nephritis, since about one-third less ether is required to complete anesthesia when the hyoscine-morphine combination is employed, while in minor surgical cases no volatile anesthetic is required at all.

2. Inspiratory pneumonia occurs much less often when this method is resorted to, since the hyoscine dries up the secretions and the throat is not full of mucus.

3. After the operation has been completed and the patient returns to his bed, he usually sleeps peacefully for several hours; the length of time depending upon his susceptibility to the drug. During this period, the ether is eliminated, so that in the majority of instances the patient escapes the nausea and vomiting that ordinarily is so distressing after inhalation-anesthesia.

4. The cerebral exhaustion attending surgical shock, which not infrequently results in incurable neurasthenia, is much less likely to occur; certainly its occurrence is markedly diminished. As a consequence, convalescence is much more rapid, owing to conservation of the patient's strength.

Finally, since vomiting is lessened and often entirely absent, nourishment can be administered much sooner than otherwise is the case.

The only contraindications to the use of hyoscine-morphine anesthesia referred to by Gillmore are those cited by Crile; namely: in nose and throat operations upon children, because of the tendency of the drug to superinduce spasm of the larynx. Also, hyoscine-morphine anesthesia should be employed very cautiously, if at all, when the patient is suffering from nephritis.

INDICATIONS FOR SCOPOLAMINE-MORPHINE AMNESIA IN OBSTETRICS

The following indications for the use of scopolamine-morphine amnesia in obstetrics are given by John Osborn Polak in a paper published in *The Journal of the American Medical Association* for September 18, 1915 (p. 994); the conclusions being based upon his personal experience with 400 confinements attended by himself and Dr. Ralph M. Beach in several Brooklyn hospitals; in addition to the report on 1000 cases collected by Doctor Beach, including the work of twenty different operators.

In his own obstetrical cases, Doctor Polak declares, not a death occurred among the mothers, while he could record less than the usual morbidity among these women. Postpartum hemorrhage followed in none of these deliveries. Also, no child has been born dead. While a moderate degree of oligopnea was observed in 15 percent of the babies, real asphyxia was less frequent than after ordinary labor. Three children died within the first ten days after birth, but the autopsies developed no evidence whatever that the scopolamine given to the mother had any influence in causing death.

Doctor Polak draws the following conclusions from his own work and that of others:

1. The twilight-sleep state is a reality, and is applicable in any labor in which there is not present primary inertia, marked pelvic contraction or any obstetric accident.

2. It is especially applicable in nervous women of the physically unfit type.

3. It is a valuable adjunct in the management of border-line contractions, for it allows the woman a full test of labor.

4. It is distinctly a first-stage procedure, and bears the same relation to the first stage

as do chloroform and nitrous oxide to the second stage: it relieves the pain, but does not inhibit the progress of labor.

5. It is particularly useful in cardiac cases, as it relieves the nervous apprehension and secures dilatation with less muscular effort.

MUSCULAR RHEUMATISM CAUSED BY WET AND COLD

In the view of E. Freund, of Korneuburg (*Wien. Med. Woch.*, 1915, No. 12), the muscular rheumatism affecting the soldiers exposed to wet and cold must be classed as a special variety, and he enumerates these characteristic clinical symptoms: entire groups of muscles are sensitive to pressure, and the same is true for the periosteum and joints, while mobility is interfered with; on the other hand, swellings and disturbances of sensibility and reflexes are absent. The slowly developing condition also is just as slow and obstinate in disappearing, while not changing its localization.

Salicyl-preparations and atophan have proven ineffective, while massage, gymnastics, and faradization have given most relief.

QUININE AND UREA HYDROCHLORIDE IN SCIATICA

When trying to relieve the pain of a patient suffering from sciatica, H. A. Cables (*Lancet-Clinic*, July 17, 1915, p. 57) happened to try the injection of quinine and urea hydrochloride (5 grains of this remedy to the ounce of normal salt solution), and the relief following was prompt and complete, the patient resting one entire afternoon and night. Six such injections completed the cure, and there has been no return of the ailment during the two years following.

The results were so happy in this instance that Doctor Cables tried the same remedy in a considerable series of cases, which he reports briefly. The benefit has been so striking and the relief from attacks after the immediate anesthetic effect of the drug so enduring that Doctor Cables believes the effect to be much more than that of a mere narcotic. In a number of the patients treated, a single injection of the quinine and urea hydrochloride has been followed by complete and permanent relief.

The injections of the quinine and urea hydrochloride should be made deeply since they are painful when introduced merely under the skin. The Doctor throws the solution deeply into the muscle, making no attempt to reach the nerve or its sheath; however, he introduces the needle at the tender points along the course of the nerve, as determined by palpation.

Before injecting the solution, the skin should be disinfected with alcohol or tincture of iodine. Usually the injection is repeated daily for four or five days, then every second or third day. Eight doses generally will effect a cure, while often six are sufficient to give permanent relief.

A TRIAL OF THE SCHICK TEST

Every reader of CLINICAL MEDICINE certainly will recall Doctor Lynch's admirable paper upon the Schick test for determining a person's susceptibility to diphtheria, published in CLINICAL MEDICINE for August (p. 718). An abstract of an article, by Stammel, upon the same subject will be found on page 847 of our September number. We now find a very interesting report of a practical trial of this test made by Linenthal and Rubin in the Home for Jewish Children, at Dorchester, Massachusetts, published in *The Boston Medical and Surgical Journal* for September 16 (p. 427).

These two investigators submitted to this test 126 children ranging in age from 5 years to 10 years, and only 30 of these children were found susceptible to the disease, 90 being immune. To each nonimmune child, 750 units of antitoxin was administered. It was found further, by means of proper tests, that the artificial immunity did not persist more than four weeks in 50 percent of the subjects; the duration in several children being eight weeks, while in 6 of them it lasted for more than five months.

The authors are convinced that this test is of great value in determining susceptibility to diphtheria, serving as a guide as to who may require the prophylactic injections in the case of exposure to the disease.

KAOLIN IS USEFUL IN DIPHTHERIA

Kaolin, properly applied, in the form of a dry powder, according to Hektoen of Chicago, removes diphtheria-bacilli from the throat. An excellent abstract of his report of his investigation, appearing in the *Bulletin of the Chicago School of Sanitary Instruction*, states that for the purpose mentioned kaolin is blown into the nose or throat six or seven times a day, at 2-hour intervals, through a glass tube. The insufflation is repeated sev-

eral times at each treatment. The success of this measure appears to depend largely upon the free and thorough distribution of kaolin over the nasal surfaces.

In a number of cases, in some of which there were a great many diphtheria-bacilli in the throat, complete and apparently permanent removal was accomplished in from two to four days, the throat to a large extent being freed from all bacteria.

It seems, then, that kaolin may prove of great value in removing pathogenic bacteria from various surfaces of the body, by virtue of its mechanical effect; particularly so for sterilizing "carriers," some of whom are exceedingly refractory to other treatment.

In acute infections, this medication is worthy of wide application by the profession —and a careful record should be kept, and reported upon, in order to establish the final place of white bole in antiseptic practice. If its value is proven, it will be an inestimable boon to public health in the control of contagious disease.

MORE ABOUT AMEBAS IN PYORRHEA

As we have elsewhere indicated, there is a controversy going on within the dental profession as to the etiologic influence of the entameba buccalis in pyorrhea, a considerable number of prominent dentists believing that this organism is not the primary causative agent, as now widely maintained. These gentlemen have been bolstered up in their opposition by the results of certain investigations conducted by Dr. Anna Williams, of the Research-Laboratory of the New York City Board of Health. Doctor Williams, it appears, made a series of tests of the mouth secretions of a large number of school-children, and found the entameba buccalis in 30 percent of the children who presented healthy gums, in 50 percent of those having healthy gums but carious teeth, in 84 percent with dental calculus and receding gums, and in 94 percent having tumefied and bleeding gums. The amebæ are so widely distributed that it is assumed by the Doctor that they hardly can be the etiologic factor in pyorrhea.

These figures are made use of by Dr. J. J. Sarrazin, in a paper published in *The New Orleans Medical and Surgical Journal* for September, 1915 (p. 154), to make a forceful attack upon the amebic theory of pyorrhea and, consequently, upon its treatment with emetine. However, he qualifies his arguments with the statement that there is "no intention to question the destruction of the ameba buccalis by emetine or ipecac. This is quite beyond doubt." Continuing, he says: "On the other hand, there is strong reason to believe that these amebæ are unjustly accused of producing conditions they only enjoy; that the health of innocent victims is being threatened by strepto- and staphylococci allowed to carry on infection while amebicides constitute treatment." His opinion is, that much of the benefit derived from the use of emetine really is to be attributed to the conjoint local use of antiseptics.

Sharply contraverting this position of Sarrazin's, is the experience of Brunelle and Ginsberg, as published in *The New York Medical Journal* of September 11, 1915 (p. 554). These gentlemen made an extremely exhaustive study of mouth secretions under conditions which it was thought would exclude any error. These tests were made in 356 cases. The authors say frankly that their experience does not agree with that of Williams's. For instance, they examined 50 children between the ages of three and six years, without finding the entamœba buccalis except in one; and in this instance the child had an unclean mouth, carious teeth, and bleeding gums.

Their results follow very closely those reported by Bass and Johns. Thus, in 123 mouths showing no apparent lesions, only 3 (2 1-2 percent) tests gave positive results; while out of 107 cases of frank pyorrhea, they were positive as to the entameba in 102 (95 percent). In 37 mouths showing a pyorrheal tendency, the entameba was found in 29 (or 79 percent). Also, in a series of 39 cases referred to them by dentists, who dug directly into pus-pockets, with a dental scraper, for material to be examined, they had 100 percent of positive results.

The conclusions of Brunelle and Ginsberg are, "that the entamœba buccalis is almost constantly present in pyorrheal conditions, and is rarely present in healthy mouths."

PYORRHEA AND MENTAL DISEASE

That the condition of the teeth has much to do with mental disorders, is the astonishing statement made by Carl W. Sawyer in *The Illinois Medical Journal*, for October (p. 244).

Dividing his cases into two classes, namely, the depressed and the excited, Doctor Sawyer soon learned that those of the depressed, melancholic type of the insane had poor

teeth (or no teeth at all), and suppurating gums, while, as a rule, those of the violent, excited type had beautiful white teeth and clean gums. Thinking that there might be a connection between diseased mouths and melancholic and depressed states, cultures were made from the pus exuding from the alveolar pockets, which disclosed the presence of numerous staphylococci. Thereupon, vaccines were administered to a few patients, and this, occasionally, was followed by a certain improvement.

In the meantime, the work done by Bass and Johns on alveolar pyorrhea came to the attention of Doctor Sawyer and he accordingly began treating his patients for entamebic infection. Up to the present time he has examined 35 such cases and found the specific ameba in 26; that is, in 74.2 percent of these mentally diseased individuals. In none of these patients were the teeth found in perfect condition, even upon cursory examination, but in 3 they were fairly good; one of these three being of sound mind, but a sufferer from neuritis.

The mental state of these patients was interesting, 50 percent showing marked depression; 4, agitation; and 3, confusion; the general tendency in all being one of depression. Further, 13—or 50 percent—of these cases fell into the class commonly called melancholia, sometimes also defined as manic depressive psychosis. Doctor Sawyer treated all of the 26 patients, except 1 just admitted, with emetine, injecting 1-2 grain of emetine hydrochloride, daily for four days. In one case, ipecac tablets were employed, but Doctor Sawyer prefers the hypodermic method, considering it the easiest and surest method of giving the alkaloid to patients suffering from mental diseases.

Of the patients treated, 2 recovered rapidly and completely; 1 was slightly improved; 1 improved, but, owing to a kidney complication intervening, he relapsed, and stopped the treatment; 1 discontinued treatment after considerable improvement; the remainder are all improving. In no patient, however, did the emetine alone bring about recovery. On the whole, the emetine seems to remove the cause of the mental trouble and, in conjunction with other indicated treatment, such as hydrotherapy, massage, diet, exercise, besides other lines of medication, was found to be of great value.

In fine, Doctor Sawyer concludes that the entamebas are the cause of many cases of melancholia, or manic depressive psychoses, and that, when entamebas are present in patients suffering from conditions like these under consideration, emetine, by all means, should be employed.

EMETINE IN PYORRHEA

As was to be expected, there has developed in the dental profession a difference of opinion relative to the value of emetine as a cure for pyorrhea. The "opposition" is ably represented by Arthur H. Merritt, in an article appearing in *The New York Medical Journal* for August 7, last (p. 279). Doctor Merritt's position is based largely upon the fact that the accused amebas have been found present in virtually all mouths examined, healthy as well as unhealthy ones. In his own experience with emetine (which apparently has been limited to the treatment of 5 patients), the results have been disappointing, although improvement occurred in at least 4 of them. Nevertheless, he admits that it is too early to form any final conclusions concerning the role which the entameba may play in the etiology of pyorrhea or as to the therapeutic value of emetine in its treatment.

In marked contrast to the pessimism voiced by Doctor Merritt, there greets us the optimism relative to the emetine treatment expressed by F. E. Stewart, whose paper upon pyorrhea alveolaris is published in the same issue of the journal named. This writer quotes a long array of authorities and reports on clinical researches by physicians and dentists, as demonstrating the exceeding effectiveness of emetine; at the same time, however, expressing the belief that this alkaloid acts best when employed in association with bacterin-treatment, for the accompanying pus infection, and the local use of emetine-solution.

In this connection, it is interesting to read an article contributed by a dentist to the August number of *The Ladies' Home Journal.* While this was prepared for lay consumption, it nevertheless is ably written, and it clearly gives expression to the faith of a considerable portion of the dental profession regarding the curative value of emetine.

EMETINE IN PELLAGRA

We are happy to observe that our suggestion, that emetine might prove of value in the treatment of pellagra, is beginning to bear fruit. Thus, in the August number of *The Texas State Journal of Medicine,* in an article on this malady contributed by W. F.

Thomson, a letter is quoted from Doctors Blow and Hargrove, who write as follows:

"Having reached the conclusion that we are dealing with a condition produced by some parasitic organism, we cast about for the culprit. The recent work of C. C. Bass, Allen J. Smith, and others on the entamœba buccalis as the causative factor in pyorrhœa alveolaris, has suggested to us the possibility of a kindred parasite causing pellagra. With this in mind, we have recently given emetine to two patients, both in the second attack, with sore mouths and diarrhea. There was rapid improvement in these symptoms in both cases, and, under the influence of a strong protein diet, both patients are showing marked general improvement."

A few days ago, our friend Dr. E. H. Bowling, of Durham, North Carolina, called upon us when stopping over in Chicago for a day while on the way to the Pacific Coast. The Doctor told us of some very interesting experiences with pellagra, particularly with regard to the use of emetine, which he already has employed with striking success in a considerable number of cases of this disease. Doctor Bowling promises us an extended report of this pioneer work as soon as he returns from the West.

UNCERTAIN ACTION OF BENZOL

The fact that reports upon the action of benzol in leukemia vary so greatly seems to prove, according to W. Neumann, of Giessen (*Deut. Med. Woch.*, 1915, No. 15), that the personal factor constitutes a strong element. Consequently, he avers, therapeutists should aim to find some harmless agent, to be combined with benzol, that will counteract the leukotoxic action of the latter substance.

CONNECTION BETWEEN SKIN ANOMALIES AND PSYCHOPATHIES

That there is an intimate connection existing, many times, between certain anomalies of the skin and its adnexa and mental diseases, is the observation made (*Arch. d. Antrop. Crim.;* cf. *Muench. Med. Woch.*, Jan. 5) by G. Vidoni and S. Gatti, of Treviso, who have been studying some 500 insane persons. While not referred to in our authority, this relationship no doubt must be explained by a disturbance of balance between the secretions of the system of the endocrine glands. The following are some of the conditions recorded:

In dementia præcox, very often one observes white lines in the skin greatly resembling those of pregnancy. There also sometimes occurs an abnormal pigmentation of the skin and the hairs; which periodical forms, moreover, may coincide with the several attacks. So, also, a certain amount of pigmentation of the linea alba may appear with some psychosis, and leave with it. Thus, in many neuropsychopathic conditions, a congenital albinism and an acquired one is met with. The authors likewise have encountered numerous instances of herpes zoster among their dements.

Among the idiotic and those suffering from periodic mental derangement, the growth of the hair and the nails frequently is retarded to a remarkable degree. Hypertrichosis and hypotrichosis, besides other abnormalities of hirsute growth are of frequent occurrence among the insane and degenerate individuals, and may be found in association with various other organic abnormalities, as, for example, hermaphroditism. Degenerates may show nails, of fingers and toes, of irregular shape or greatly deformed.

WHITE BOLE IN DYSENTERY AND ENTERITIDES

Writing upon his observations made in the field hospital under his charge, Doctor Zilz (*Militaerarzt*, No. 4, col. 65), among other things, discusses the management, medical and sanitary, of ordinary abdominal disturbances, as also of dysentery.

Regarding these conditions, Zilz declares that highly gratifying results were secured from the liberal administration of white bole; this, in connection with a rigid diet. For the tenesmus, suppositories of belladonna were prescribed, sometimes fortified with opium for severe painfulness—although, on the whole, he rejects opium-medication in these diseases. While he knows, as he says, good animal charcoal to be superior to the clay, that article was not at his disposal. When these patients were transported on wagons, they were bedded on straw, and the latter was burned when the patient was removed; the vehicle was disinfected by washing with carbolic-acid water.

ICHTHYOL APPLICATION FOR FROSTBITE, ERYSIPELAS, AND OTHER LESIONS

Suggestions for the treatment of frostbite are always in order with the advent of winter-

time; so, the following note from Doctor Vanselow, at the time serving in a German field hospital (*Muench. Med. Woch.*, Jan. 12, 1915), may be of interest; the more so, since the writer not only bases his recommendation upon an experience of many years in private practice, but in that trying winter campaign in Flanders had widest opportunity for observation.

Ichthyol as a remedy for perniones is not new, of course; still, the special combination, as here presented, may be so to some, to wit:

Ichthyol (*ad lib.*, Gm. 1 1-2 to Gm. 2) ..... Gm. 1
Balsam of Peru ..... Gm. 2
(Or, when indicated, tincture of iodine, Gm. 2)
Castor-oil ..... Gm. 1
Collodion ..... Gm. 20

The (of course unbroken) skin is liberally coated with this varnish. While the ichthyol and Peruvian balsam are remedial, the collodion, as is well understood, serves to empty the congested arterioles by itself contracting, besides forming a protective cover. The mechanical action of the oil requires no explanation.

W. Lueth, of Thorn, accords great praise to ichthyol as a remedy for erysipelas (*Deut. Med. Woch.*, cf. *Muench. Med. Woch.*, Jan. 26, p. 121), recommending that the entire area, and extending 1 cm. beyond, be thickly coated with the undiluted *freshly* made paste and then covered with cotton. Should the process extend, nevertheless, the application is to be repeated. The drying layer exerts a slight pressure through its contraction. As a rule the temperature drops rapidly, as prompt recovery follows.

The abstractor here permits himself to submit that ichthyol is not employed nearly enough as a local antiphlogistic and healing agent. This writer would not wish to be without it, his personal and individual experience extending over many years. Really, not rarely it seems to act as if by magic—so unbelievably rapid. And this action extends to congestive and inflammatory processes of all kind, whether of stasis, injury or infection, and including the mucous membranes. Thus, in this category, there fall lesions of the most diverse description—pimples, furuncles (notably those of the face, nose, hands), bruises, burns, angry margins of any sore, frostbite, sore nipple, tonsillitis, protruding piles; also refractory erosions of the mucosa of the buccal cavity (best preceded by H_2O_2 cleaning) and scabby sores inside the nostrils; moreover, more deeply seated painful inflammatory processes, especially of the smaller joints. Not infrequently a single application dispels a painful facial furunculous induration or sore inside the nostril or around a tooth.

Those who have not given this peculiar sulphur compound a full tryout will be surprised at the sometimes wonderfully quick and perfect action; and this can greatly be aided (where practicable) by covering it airtight with impervious tissue, thereby preserving it in a moist—hence, mobile, absorbable—state, while the moist (perspiration) warmth also is a great aid. A simple method often, is to smear the spot with a 50-percent dilution, then press on the shaped rubber tissue; or, the covering may be painted with a good skin-varnish and laid on, or, if a finger, wound around. And, by the way, nothing "beats" resinous skin-varnish and muslin strips for bandaging the tips of the fingers; being more pliable and adherent than is adhesive plaster. However, any rubber cement (e. g., for bicycle-tires) also serves excellently for this purpose. This expedient will be a "glad surprise" to many a one.

GALENICALS THAT "WORK WITH CLOCK-LIKE PRECISION"

Dr. W. J. Robinson, in *The Critic and Guide*, settles the argument in behalf of the galenicals in a very few words. In the October, 1915, number of his little journal, he says:

"The editor of *Physicians' Drug News* says that he would not be willing to throw away those 'galenical preparations that work with the precision of the clock.' Neither should we. But we should very much like to know the names of the galenicals which work with 'the precision of the clock.' We are afraid there aren't any such."

CHOICE OF VEGETABLE OR SALINE PURGATIVES

According to H. J. Campbell (*Practitioner* Aug., 1915, p. 169), vegetable purgatives find their chief application in the treatment of constipation in the young, while laxative salines are most frequently indicated in the treatment of constipation occurring after the age of fifty. Since saline cathartics interfere with the absorption of fluid from the bowel, on the one hand, and, on the other, cause an increased flow of intestinal secretion, it is essential that there be an abundance of fluid in the vessels or that plenty of water be drank with the drug. However, if the full depletory

effect of the saline laxative is desired, it must not be given in too dilute solution.

Saline laxatives also may be of special value for persons suffering from excessive weight, because their presence interferes with the absorption of food, especially of fats; which latter, in the case of a magnesium salt, give rise to the formation of insoluble soaps. In association with this loss of weight, providing the diet is restricted and regular exercise enforced, the general health will greatly improve. At the same time the work of the heart is sensibly reduced.

The laxative salines likewise are valuable in reducing the blood pressure when this is unduly high, on account of their power of depleting the vessels of an excessive quantity of fluid.

DISINFECTION OF TYPHOID EXCRETA

All typhoid excreta should be treated with disinfectants, and the best of these, according to Dr. Mark W. Richardson (*Boston Med. & Surg. Jour.*, July 29, 1915, p. 156), is heat, as employed in the steam-jacketed hoppers in use in large hospitals; or, also, it may be generated by means of unslacked lime, according to the method of Kaiser, as described in the November, 1912, number of CLINICAL MEDICINE (p. 1126). This latter method consists in diluting the stool with enough hot water to cover, then adding one-fourth its bulk of the quicklime and allowing to stand for two hours. It is said that the hydration (slacking) of the lime generates enough heat to destroy the typhoid organisms. The feces should be collected in a china or enameled receptacle provided with a suitable cover.

Chemical disinfection, according to Richardson, is best secured by mixing the excreta thoroughly with the following; carbolic acid, 5 percent; formalin, 10 percent; milk of lime or chlorinated lime, 6 percent. Not only should the stools be disinfected, but it is also important that the water with which the patient has been bathed likewise receive this treatment, inasmuch as it may be contaminated as easily as the urine or fecal matter. Any of the disinfectants mentioned may be employed for this purpose.

In addition to treatment of the excreta as advised, Doctor Richardson recommends internal disinfection with hexamethylenamine, this to be administered in 5- or 10-grain doses three times daily throughout the course of the disease. This agent probably does not influence the typhoid bacilli in the stools, but it is exceedingly valuable as a urinary disinfectant, and as such prevents the occurrence of cystitis, orchitis or epididymitis during the course of the disease. While typhoid bacilli are rarely present in the sputum, yet, this complication does occur frequently enough to warrant routine disinfection of the mouth and the oral and nasal discharges. Also, every typhoid patient should have his own, exclusive dishes and toilet-articles, all of which should be subjected to rigid supervision.

For the disinfection of the room (or rooms) occupied by the patient, Doctor Richardson puts greatest confidence in fresh air and sunshine, together with a generous application of soap and water, and a maximum utilization of fire, steam, boiling water, besides some chemical disinfectant, such as carbolic acid in 5-percent solution.

The most important factor in the whole problem of disinfection is that of the hands of the patient and of those dealing with him. The typhoid-carrier not infrequently, as a result of uncleanly habits, may infect the food of many people. Our most effective hygienic slogan in dealing with typhoid fever, writes Doctor Richardson, is: "Wash your hands before handling food, whether it be for yourself or for other people's use."

STATISTICS ABOUT TYPHOID-CARRIERS

From statistics compiled by Mondolfo (*Riv. Crit. Chir. Morg.;* cf. *Militaerarzt*, No. 4, col. 63), the following data concerning carriers of typhoid bacilli are of interest:

The typhoid-bacillus was demonstrable in the mouth secretion in 78.5 percent (28 cases) of convalescents from typhoid fever. Neither the severity nor the duration of the attack had anything to do with the phenomenon. The pathogenic bacilli persisted in the mouth, in one person for more than two months, and even as long as nine months in another instance.

The bacilli far less frequently persist in the feces and the urine; the ratio among the persons observed being: saliva (as shown above), 78.5 percent; feces, 21.4 percent; urine, 14.2 percent.

FLUORESCEIN FOR TESTING THE PENETRABILITY OF THE TEAR-DUCT

H. Lystad has applied the method of Schirmer for testing the penetrability of the tear-duct, and has found it (*Norsk Mag. f. Laegevid.;* cf. *Muench. Med. Woch.*, Apr. 27) simple and entirely effective, both experimentally and in practice.

The sterilized solution is composed of fluorescein, 0.2; potassium carbonate, 0.35; water, 10 Grams. A few drops are deposited in the eye (no anesthesia) and then a sound carrying a pledget of absorbent cotton is introduced into the nostril, the wad to rest near the exit of the duct. If the latter is penetrable, the cotton, which is to be examined about, every three minutes, will become stained. Lystad has similarly employed a 5- or 10-percent solution (freshly made) for the same purpose.

The period for the fluid to penetrate the duct varies with the age, but averages about as follows: under 10 years, 1 1-3 minutes; at 10 to 20 years, 2 3-4 minutes; at 30 to 40 years, 3 1-2 minutes; at 40 to 60 years, 4 1-3 minutes.

CAUSES OF DEATH FROM SALVARSAN

According to Ivan C. Dreyfus, as quoted in *The American Journal of Urology* for May (p. 186), a healthy liver is the *sine qua non* in salvarsan-therapy. When the liver is sound, it has the power of storing large quantities of poison and then discharging them into the circulation in small amounts. If for any reason the liver's storage-capacity is interfered with, there is danger of "overflow" into the circulation, whereupon the salvarsan exerts a direct and dangerous influence upon the kidney, resulting in tumefaction of its mucosa and diminution in the output of urine. There may be albuminuria, cylindruria, and even hematuria; arsenical intoxication, resulting in death, is very likely to be the terminal result.

Dreyfus believes these toxic phenomena to be due to an oxidation-product (paraaminophenylarsenoxide), formed when the liver can neither fix nor detoxicate and the kidney cannot excrete the drug. The chief causes of liver insufficiency are alcohol and pregnancy, as shown by the large proportion of salvarsan-deaths in alcoholics and pregnant women.

THE PROPHYLAXIS OF SCARLET-FEVER

We find an exceedingly interesting article upon the prophylaxis of scarlet-fever in *The Indianapolis Medical Journal* for June (p. 243), contributed by our good friend Dr. George L. Servoss. This article contains an excellent review of the common methods of preventing the disease, with a statement of some of the newer expedients. Among the essentials named are: segregation of the patient in a suitable room, presence of a trained attendant, and special care in the disinfection of bed- and body-clothing and of dishes and other exposed objects, bearing in mind that the infective material is carried mainly in the discharges from the mouth, nose, and bronchi.

Doctor Servoss gives an interesting résumé of the use of streptococcic bacterins for securing specific immunity, citing the experience of a number of clinical investigators who have employed them prophylactically with alleged good results. A number of references are made to the Russian literature. The report of Yemelanoff is typical: An epidemic is reported, in which 8 or 10 new cases were appearing every day, and a whole village was infected. Quarantine regulations could not be enforced. Finally, 610 children were given the prophylactic bacterin, and of these not a single one contracted the disease. There are many other reports of this character.

In view of the interesting experience obtained by those who have used prophylactic scarlatina-vaccine, it is surprising that it is not more largely employed in this country.

Doctor Servoss, in this paper, neglected to call attention to the great value of calcium sulphide as a prophylactic in scarlet-fever. Saturation with this drug has proven very effective in cutting short a goodly number of epidemics. The remedy is cheap, easily obtained, harmless, and so effective that it should be the first resort of every physician for the treatment of scarlet-fever—making sure, though, of dealing out tablets that can be relied upon, seeing that so much of this article in commerce is well-nigh worthless,

GAS-GANGRENE IN THE WAR-ZONE

There already has grown up a rich literature on the occurrence and management of gas-gangrene among the wounded soldiers in France and Flanders, as well as in the Russian war-zone. This complication is one of very common and unprecedented occurrence in the present war, especially when the wounded are allowed to remain upon the field for some time uncared for. Alexander Fleming (*Lancet*, Aug. 21, p. 376) has made a careful bacteriologic study of 32 cases of this complication, and has found the bacillus aerogenes capsulatus uniformly present, and generally in association with the common pyogenic bacteria. Doctor Fleming concludes that the presence of the pus-organisms undoubtedly is a factor in the rapid reproduction of the bacillus aerogenes. The latter organism has

been demonstrated in nearly all wounds, but it is only rarely that it seems to exert its full pathogenic action.

The condition most favorable to the growth of the gas-bacillus is, the presence of a considerable amount of dead material or of a blood clot in the wound, this furnishing an admirable culture-medium for the bacillus. The organism grows readily on blood, and produces a considerable amount of lactic acid, which latter exerts a very potent influence upon the leukocytes, in that it prevents their emigration and thereby creates a vicious circle—the greater the growth of the bacillus aerogenes, the greater the production of lactic acid, consequently the smaller the protective leukocytic emigration.

It is rare to see gas-gangrene develop in a patient whose wound has been opened and drained. Once established, the progress of the disease is very rapid. In all the cases seen by the author, the gas-gangrene developed on the upper or lower extremity.

BACTERIN-TREATMENT OF SEPTIC CONDITIONS OF THE SKIN

The bacterin-method of treatment is proving quite effective, according to Madden (*Lancet*, Aug. 7, p. 267) in various septic conditions of the skin and lymphatics, such, for instance, as impetigo, sycosis, cutaneous erysipelas, lymphangitis, eczema with serous or purulent tendency, and pustular acne.

In simple acne, Madden affirms, results are many times really astounding, benefit being most often derived from a mixed acne-bacterin that contains staphylococcus albus or aureus as well as the acnegenic organism.

Associated treatment of value consists in the local use of sulphur lotions, washing with hot water and sulphur soap, facial massage, and the expression of the blackheads. Anemia, if present, must be combated with appropriate treatment.

THE OPERATIVE TREATMENT OF EXOPHTHALMIC GOITER

In a dissertation on exophthalmic goiter, Bruno Glaserfeld (*Grensgeb. d. Med. u. Chir.*, Bd. 28, H. 1; cf. *Muench. Med. Woch.*, Jan. 26, p. 119) says that the operative procedure —ligature of the artery, resection of the thyroid gland, strumectomy—must be decided upon according to the severity of the clinical picture, as fixed by careful examination at repeated inspections, and that a preparatory course of building up the patient is of greatest importance. In its earliest stages, internal therapy is the proper course, but as soon as the symptoms become aggravated operation must be decided upon.

In the milder cases, postoperative symptoms do not occur, but may be looked for in the severe ones, owing to the disturbed condition of the nerves. The mortality is zero in mild cases, but averages 5.4 percent when the condition is grave—this latter figure admitting of reduction when one counts cardiac degeneration and cachexia as contraindications to surgical intervention. The successes attained are more or less relative, for, the subjective states of the patient must be taken into account. Out of a total of 534 goitrous subjects operated upon—most of them observed for several years afterward—nearly 82 percent were cured or at least materially benefited; the failures being principally in hysteroneurastheniacs. Relapses were observed in 4.7 percent. The author is not clear as to the role of the thymus gland.

In the paragraph which follows, another aspect of this problem is presented.

EXOPHTHALMIC GOITER: OPERATION VERSUS ROENTGENIZATION

In view of the splendid results attained by him in 23 cases, H. von Haberer, of Vienna (*Wien. Klin. Woch.*, Nos. 1 and 2, 1915), considers simultaneous reduction of the thyroid and thymus glands as the best treatment in exophthalmic goiter; and he adduces as negative proof the unfavorable results in one instance in which a relatively too small proportion of the two endocrine glands had been excised.

The author, therefore, proposes that at the operation the exact size of each of the two glands be determined and thence the amount of reduction fixed upon. Should thereafter threatening symptoms make their appearance, a further diminution of the organs must be considered.

Doctor v. Haberer urgently cautions against the x-ray treatment of victims of Basedow's disease before an operation has been performed, for the reason that it is unreliable, sometimes even harmful, and withal only will postpone the imperative timely surgical interference.

PHARMACODYNAMIC VALUES OF DIGITALIS PREPARATIONS

By means of biologic experiments (frog-heart), the famous Rostock pharmacologist, R. Kobert, has sought to determine the rela-

tive hemolytic properties of various medicinal forms of digitalis, the results of which he made public in the *Apotheker-Zeitung* (1914, No. 70). It may be observed here that the dissolvent of the erythrocytes is the saponins present in digitalis. These are some of Kobert's findings:

None of the infusions of any of the different kinds of digitalis acted upon the red corpuscles, even in a dosage of 80 to 100 milligrams of the leaves steeped in 10 Cc. of water. The infusion of the dry leaves contains no active saponins. All the official tinctures of digitalis tested by Kobert acted hemolytically.

The hemolytic power of the tinctures increases with age; consequently, a progressive decomposition of some kind must be assumed; and these facts may bear some relationship to the other fact established, namely, that tinctures deteriorate upon being kept for some time. Tinctures prepared with 96-percent alcohol and from fresh leaves, as suggested by Kobert, are more potent than the strongest official ones. A fresh-leaf tincture made in October is stronger than one prepared in the summer. If for any reason the leaves are to be dried before extracting, it is advisable to make up only a limited supply for the summer season, and to prepare a fresh lot of tincture in October, to last over winter and till next summer.

Of course, the digitalis preparation of choice should be one free from saponins, like digipoten, for instance.

RAYNAUD'S DISEASE

Maurice Raynaud, who first (in 1862) described the condition bearing his name, had a pretty nearly correct estimate of its pathogenesis. He characterized it as a "symmetrical gangrene of the extremities," and believed that the local symptoms are caused by spasm of the capillary vessels, which shut off the circulation more or less permanently from the affected part. According to Oliver T. Osborne (*Amer. Jour. Med. Sci.*, Aug., 1915, p. 157), no pathologic changes in the blood-vessels have been discovered in conditions of this kind, so that, evidently, this disease is the result of a local spasm, which, however, may affect the arterioles or venules, or both. If, under these circumstances, the arterioles are contracted, the cyanotic type of congestion occurs, preceded by an anemia; if the venules alone are contracted, a red, congested form may occur.

In order that one may avoid errors of diagnosis, owing to an atypical form of the condition, Doctor Osborne points out the degrees of severity of Raynaud's disease encountered, these being about as follows:

1. The condition may be so mild as not to be recognized. Such patients have cold hands and feet, irregular pains in various parts of the body, and they feel cold in winter and hot in summer (vasomotor ataxia, as it has been termed). There may be so much contraction of the peripheral blood-vessels that the internal vessels, especially the abdominal, are dilated, owing to which diarrhea frequently occurs (sometimes termed "intestinal sweating"), the patient having a diarrheic discharge in the morning, but no other symptoms. Or, there may be such abdominal congestion as to give rise to various other disturbances, notably albuminuria and gastrointestinal troubles. This kind of congestion or spasmodic contraction of blood-vessels is probably often the cause of ovarialgias, delayed and painful menstruation, and menorrhagia.

2. There are cases of medium severity, in which the subject is troubled with ice-cold hands and feet, and he may have chilblains of varying degrees, sore fingers and toes, suppurations around the nails; or, there may be erythromelalgic symptoms of red face or red hands, with or without pain in the latter. Furthermore, he may, perhaps, have severe headaches; there may be faintness or syncope, dizziness, and some slight nervous disturbances (as of the eyes); recurrent albuminuria and hematuria are possibilities. This condition may, conceivably, be one of the causes of albuminuria of adolescence and of orthostatic albuminuria.

3. These are the severe forms, occurring less frequently, in which there may be serious cardiac disturbances, serious cerebral manifestations, severe abdominal symptoms, as well as deep ulcerations of the fingers and toes.

4. Here may occur, although very rarely, such serious and uncontrollable spasms of the blood-vessels as to produce gangrene and sloughing of parts of the extremities. It is also conceivable that fatal heart attacks may be caused by this syndrome.

DIAGNOSTICATING CONGENITAL SYPHILIS IN INFANTS

M. Soldin and F. Lesser, of Berlin, maintain (*Deut. Klin. Woch.*, 1915, No. 15) that a negative Wassermann reaction in suspected congenital syphilis in an infant does not establish a positive diagnosis: the mother's blood in that case also must be tested.

Miscellaneous Articles

Aborting Double Pneumonia

I AM well aware of the fact that the reading of this headline will evoke a feeling of incredulity in the minds of many doctors; nevertheless, I make the affirmation in the firm conviction that I am correct in my diagnosis of this disease as well as most successful in its treatment. Many years of experience in country and city practice alike have taught me some lessons that I never learned in any medical college. Good old Doctor Nature is the best teacher; and human nature in all its aspects furnishes a field of study as enchanting and instructive as it is unlimited. But to my subject.

Doctor Osler says that pneumonia takes off one in four or five of all its victims. Doctor Ellingwood tells us that we ought to lose not more than 5 percent of our patients in eclectic practice—at the worst, not over 12 percent. I use mainly the eclectic remedies and the alkaloidal granules. I always carry the latter with me. But I am not irrevocably bound to any "pathy." A careful study of all the conditions, as manifested by the symptoms, and a skilful use of the remedy indicated, together with plenty of tongue-treatment, embraces my armamentarium.

Occasionally I have aborted the disease when it had attacked only one lung—especially in young and otherwise healthy persons. Some four years ago, I aborted pneumonia in a patient in whom the upper lobes of both lungs were attacked—first the left, then the right one. This case I reported in CLINICAL MEDICINE and thereupon received letters from doctors, telling me it "could not be done." For, it was contrary to Osler's or some other noted professor's observation.

Lately I have absolutely jugulated double pneumonia closely following upon a miscarriage at two months. The patient was a young married Mexican, the mother of three children. I was called soon after the initial chill. The message said, "Fever is very high." I went prepared for a curettage, supposing septic fever had set in. But, to my surprise, both lobes of the left lung and the upper one of the right were involved. The temperature stood at 103.5° F., pulse ran 120, respirations were about 45 per minute—in fact, I could hardly count them. Pain on breathing was as severe as it was symptomatic. Moaning and sharp outcries were frequent, especially upon coughing or moving. All the leading classical symptoms of pneumonia were plainly in evidence. The flow from the uterus was as it is normally following the miscarriage of a week previous. The loss of blood had been about ordinary, and there were no other complications.

My usual treatment for pneumonia was employed in this case, which is as follows: I cover the involved lung with thick, hot antiphlogistine plasters, clean out the bowels with the podophyllin and bilein compound and keep them clean with the sulphocarbolates (intestinal antiseptic); then use the other standard remedies—atropine, bryonin, asclepidin, ipecac, veratrum, aconitine, digitalin, and so on—only as indicated. I never prescribe opiates, and liquors very seldom. No routine method is ever followed. I lay great stress upon limiting the intake of all liquids, especially water (on which this malady thrives), during the first stages of the disease; also give the patient plenty of fresh air, besides keeping everyone out of the room, except the nurse. Dolor-pyrine to diaphoresis robs the disease of its essential food. A little malted milk or similar nourishment is given only when absolutely necessary to keep up vitality. Even this must be well "masticated."

In this way, I jugulate, shackle, and starve out the disease both by natural and therapeutic means, meantime doing all I can to keep up the patient's vitality. Under this treatment, I do not lose more than 2 percent of my pneumonia-patients. I do lose, however, the opportunity to run up a big bill. Still, I can stand that, for my financial loss is the patient's gain, while I have maintained a clear conscience and helped to educate and elevate our noble profession. I believe that

this sort of giving enriches, not the receiver alone, but likewise the giver and the world.

S. J. BROWNSON.

Fort Worth, Tex.

"JUST A COUNTRY DOCTOR"

In going over my September number of CLINICAL MEDICINE, I was greatly interested in the following passage:

"One of our correspondents puts up to us a rather novel and interesting problem. He is practicing in a provincial town, and during the summer finds that he has a good deal of spare time on his hands, which he would be very glad to turn to some other profitable account—not that he is so desperately in need of the extra money it would bring him, but he feels that as long as he has all this time to spare, and a fair share of intelligence and ability, and the will to turn them to account, there ought to be some channel for doing so. But—there's the rub—he cannot connect with any such channel. So, there he is obliged to sit—idle, restless, eager to capitalize his brains and his time, and with no means, so far as he has been able to compass, of doing so.

"Here, we repeat, is a very novel and interesting aspect of the doctor's economic problem. Possibly—indeed, quite likely—others of our 'family' have found themselves in the same position; and possibly some have found the way out. If so, both our correspondent and ourselves would be glad to hear from them. We should like to hear from them, anyway, on the question."

This was exactly my condition; and now I will tell you what I have done in my own case.

Having a large house, fine large lawn, and a beautiful pine-grove, I receive patients into my home and call it the Maquan Sanatorium. In this connection, I want to call attention to the success attained by two "plain country doctors," the now famous Mayo brothers as shown by the following clipping:

"In these days of great gifts to education from funds that were amassed in ways not too innocent, it is refreshing to learn that the Mayo brothers have given $2,000,000 to the University of Minnesota, together with what is probably the finest equipment for medical research in the world. The very size of the gift shows how wealth as well as fame has come to two country physicians, sons of a country doctor. In their case, it was not necessary to move to some center of influence and publicity, a great city. The world found its way to their door, because they had something of knowledge and technic that the world needed. The pilgrimage of 3000 physicians a year to Rochester, Minnesota, is itself a splendid tribute to the genius of the two brothers."

Now the influence of the two enterprising men will be perpetual, through their endowment for medical training and research.

I also have taken up public-health work—being school physician, inspector of meat, and inspector of animals. For many years I have been the town physician (to the poor of the town). I have taken an active interest in town affairs. Have organized a grange, farmers' club, and improvement society. Having seven acres of woodland and two under tillage, I devote some of my leisure to farming and forestry.

I am also active in social and economic reforms.

I have raised and educated two children.

I think my life has shown that a "country doctor" is not "obliged to sit idle, restless, eager to capitalize his brains and his time, and with no means of doing it."

FLAVEL S. THOMAS.

So. Hanson, Mass.

WHICH IS RIGHT?

"Also, we are familiar with the almost invariable rejuvenation of an old man who marries a vigorous young girl, or of an old woman who purchases the affection or, at any rate, the marital companionship of a lusty youth. In most instances, these elderly people seem to acquire a new lease of life."—Dr. Edwin F. Bowers, in CLINICAL MEDICINE for September.

Excuse me for picking up Doctor Bowers again, wherein I hope to be absolved from any untoward feelings, since it only happens as one of those "singular coincidences" that I have another criticism to make on his statement—but *not* concerning tobacco this time, as you will note.

To make the matter short, I wish to say, with reference to the above quotation, that both my own observation and all I have read on the subject prove the truth of the exact opposite of what Doctor Bowers is here saying.

Are you jesting, doctor?

I ween it is true that youth thus steals from age rather than age from youth. Yet, it would be interesting to learn what the observation of others on this matter teaches.

A. P. REED.

Boston, Mass.

EMETINE IN PSORIASIS ASSOCIATED WITH PYORRHEA

I have been using emetine in a case of psoriasis occurring in a man 50 years of age who has had this trouble for years, especially on the scalp, around the forehead and in scattered spots over his limbs. Along with this skin trouble, he has had pyorrhea for some years, in a mild form.

I have been giving the emetine hydrochloride, hypodermically, in 1-2-grain doses; not regularly, but rather intermittently, as the patient would forget to come in. Results began to show within two weeks after the

initial injection, and now (three or four months later) the lesions practically are well. In addition to the hypodermic injections, I have used an ipecac solution as a mouth-wash. The man's general health is better, also.

I have used emetine in another case of psoriasis, unassociated with pyorrhea, but no noticeable results have followed. I believe that it takes some months to get marked results.

CHAS. B. KERN.

Lafayette, Ind.

EMETINE IN HEMORRHAGE FROM UTERINE CANCER

I have had a very satisfactory experience with emetine in a case of hemorrhage from cancer. A lady, aged 60, afflicted with cancer of the stomach, intestine, and liver, had frequent and severe hemorrhages from the stomach and the bowels, which I was unable to control until I began giving emetine hypodermically. The first injection checked the bleeding absolutely in less than ten minutes, and the effect seemed to last about forty-eight hours. These injections were repeated at five different times, and seemed to have only a pleasant effect. Of course, the poor woman had to pass away, eventually.

J. O. MORRISON.

Anderson, Ind.

OIL OF CASSIA AS A HEMOSTYPTIC

In the August number of CLINICAL MEDICINE (p. 766) Dr. C. C. Matthews recommends a carbolized solution of alum and permanganate as a sure hemostyptic. Not doubting its value, I believe, though, that I have a remedy that will be preferred by most doctors; for, while it may not do the work any more quickly (and, still, it may), it certainly is much more agreeable to use. This remedy is simply oil of cassia, taken in 3- or 4-drop doses. This I learned from an old German doctor about twenty-eight years ago. I have never had a failure with this remedy, whether it was a case of nosebleed or of postpartum hemorrhage. I will describe one case.

A boy 12 years of age had profuse nosebleed, and two regular physicians were in attendance. The boy had bled till everything about the room had the appearance of a slaughter-house and he was so exsanguinated that he could not lift a hand. The doctors had tried all manner of procedures, without result. At last I was called in, and I gave him a few drops of the oil of cassia on his tongue (I usually give it on a little sugar), whereupon the bleeding stopped like magic. The boy never suffered from the nosebleed again, although he had been subject to frequent attacks up to that time. I could recount many other instances, and with like results. Try this, and you will get results; moreover, it is pleasant.

G. F. PARKE.

Junction City, Oreg.

THIS IS HARD LUCK, INDEED!

Having been able, in three states and three years of practice, to get only ten cents on the dollar out of the practice of medicine, I, naturally, have become introspective and skeptical and very anxious to know what to do. Recently you had several articles about this business-problem. Can you point out to me which way to turn, in order to make a living as a first-class, honest, absolutely undissembling Doctor of Medicine and Surgery?

At present I am teaching school.

Q.

——, Texas.

[Can any reader of CLINICAL MEDICINE help this good brother?—ED.]

ONE OF OUR FRIENDS WINS A PRIZE

We learn from *The Sylvan Valley News* that Dr. C. W. Hunt, of Brevard, North Carolina, has immortalized himself by winning a prize of $250.00 offered by the Anheuser-Busch Brewing Company for a title for a picture mailed to physicians last spring.

The picture shows a cottage on a hill, lights ablaze in every room, with a typical country doctor hurrying up a trail leading to the house, the moonlight throwing his shadow upon the ground; the old doctor, dressed in oldtime garb, walking up the path with long strides, his medical satchel in his left hand, his right hand under his chin holding his eyeglasses, his right elbow bent and extended, an oldtime umbrella pointing from his elbow, and his body bent in such a position that the whole throws the shadow of a stork on the ground in the moonlight, its bill extended toward the cottage on the hill. The title for this picture was to be suggested by the doctors, and the selection was to be made by a committee of eminent men.

Doctor Hunt's suggestion was, to call the picture "On the Honeymoon Trail," and, out of more than twelve thousand suggested titles, this one was chosen as the best among them all. Accordingly, he was the lucky winner, and has received a check for $250.00, in good and lawful money.

ECHINACEA IN PERITONITIS FROM UTERINE INFECTION

In the August number of CLINICAL MEDICINE (page 782), Dr. R. J. Smith relates an unfortunate experience in the case of rupture of the womb, at childbirth, and subsequent septic peritonitis. I wish to suggest the hypodermic use of echinaces, as put up by Luyties, of St. Louis, might have benefited his patient. This remedy (in ampules) has served me well in a similar case, used in connection with hot antiseptic douches, and Abbott's vaginal antiseptic inserted in the vagina after douche.

"The anticonstipation granules are the best I've ever used," so says one of my patients.

F. J. BURNS.

Annapolis, Ill.

"JUST ENOUGH"

The suggestion made by Dr. A. H. P. Leuf, in the August CLINIC (p. 716), to the effect that physicians who dispense their own medicine should "give just enough to last till you see the patient again" is excellent advice. This remark reminds the writer of a reply that he once heard given by a waggish man who was provided by nature with a very florid complexion and a prominent red nose that was well calculated to convey the impression that the owner thereof indulged too freely in the ardent. The writer was well acquainted with the gentleman, and he never saw him take a drop of liquor or saw him under the influence of liquor.

On one occasion, a certain clergyman who was a vociferous advocate of temperance accosted this man on the street and proceeded to lecture him, warning him of the danger (?) he was in and advising him to abstain from his indulgence in spirituous liquors ere it was too late. The man took the advice good-naturedly, and said to his would-be redempster that a physician had advised him, some years ago, to take a little spiritus frumenti for some particular ailment, and to take some of it daily until he saw the doctor again; that, however, he had not seen the doctor again since; for, he added after a sly pause, the doctor had departed this life some three or four years ago.

GEO. D. STANTON.

Stonington, Conn.

EMETINE IN DYSENTERY: A DOCTOR'S PERSONAL EXPERIENCE

I'm glad to attest that the emetine-treatment proved the proper means of bringing me relief in my attack of dysentery. Its effects are truly wonderful. We have had some fatal cases here, which, I'm sure, would have been amenable to proper treatment, if it had been employed. One of the victims—a bright, beautiful girl, sixteen years of age, died within a few days. The local paper, speaking of her death, said, "God loves a shining mark." The preacher also held the Creator responsible.

So, it is now as it was in the ancient days—ignorance and superstition hold sway in various forms, and death is sure to follow, whether it be the destruction of some beautiful physical human form or the blotting-out of some helpful ideal that was needed for the glorification of the race.

WALTER SCHENCK.

Wauchula, Fla.

SOME MAN!

Here is an instance of the class of men that are produced in Elgin County, Ontario. The subject was a patient under my care, and when he died it was found that he weighed 569 pounds, had a waist-measure of 9 feet and his chest measured 8 feet around. The hearse not being large enough, the casket was placed on a dray, by the help of twelve men.

HUGH JOHNSTON.

Port Burwell, Ontario.

SARATOGA AS A HEALTH-RESORT

For half a century or more, Saratoga has been a great popular resort for invalids and travelers. The mineral springs have been the great attraction, the waters being heavily charged with gas and containing large quantities of bicarbonate of sodium, magnesium, salt, and iron. Their location at the foot of the Adirondack Mountains and the proximity of Saratoga Lake added to the attractions. Horse-racing became a prominent feature of the summer season, and with it objections that repelled the better class of

invalids. Then came some very avaricious companies, who drove wells here and there, pumping out the gas and selling it in the large cities, and this changed the character of the mineral waters materially. Finally the state of New York established a commission to buy the springs and make a state reservation of them.

Over a million dollars has been expended in spring properties, land, and buildings, and in the development of a great state health-resort, in which the baths can be made available for all classes of people. The object was, to establish a national sanatorium for hydrotherapeutic work, on a scale exceeding that of German spas and government baths.

The citizens of Saratoga, realizing the purpose, united very warmly with the Commission, appropriating parks and properties, closing some springs and enlarging and developing others. The commissioners, realizing that the work would have a great future if projected on broad plans and with scientific accuracy as to results, have laid out large tracts of land and established a permanent commission composed of scientific men, whose studies and efforts are to make available every variety of mineral water of that region. Within a radius of a few miles there are a large number of sodium, magnesium, and iron springs, all very heavily charged with carbon dioxide. Some of them contain calcium, potassium, sulphur, and ammonium. In all of them, there is a very marked radioactivity, and an undefinable stimulation comes from their use, which is yet to be studied.

During the last year, the state has opened a large bathing-pavilion, where all sorts of baths are given, particularly the Nauheim, together with a very large outdoor swimming-pool for both sexes. The bath which seems most prominent medicinally is the carbon-dioxide, or Nauheim, bath. The water is pumped directly from the spring and heated to the temperature desired by means of steam-coils. The patient, reclining in this, surrounded by gas ebullitions which cause a prickling sensation of the surface of the body, is immensely stimulated. Undoubtedly there takes place a great absorption of bicarbonate of sodium and magnesium through the skin, and this has a pronounced effect. Drinking the waters at the same time, practically charges the system with chemicals which go far toward restoring the disordered condition.

Other baths of mineral waters that contain different constituents are given, together with the iron-moor baths so highly recommended abroad for rheumatism and gout. These contain a decomposed vegetable matter, charged with iron and gas waters. Brine-baths and sulphur-baths of all degrees of temperature and varying mineral strength are provided.

It would seem that hydrotherapy has never been developed on so large a scale and with such perfection and scientific accuracy as here. The commission has a medical superintendent who gives his whole time to the interests of this work and the promotion of facilities for rich and poor to avail themselves of these marvelous rich waters. Dr. Albert W. Ferris, who was formerly one of the lunacy commissioners of the state of New York, is the superintendent. The Doctor, with others, before the war, made an exhaustive study of the bath-systems of Europe, with the view to developing a great spa for American invalids, on the largest and most perfect scale.

It has been recognized that an army of invalids were the most numerous patrons of European springs for many years past. Over 30,000 were registered in 1912 at the different springs in Germany. The war has stopped this, and now the commissioners' work to build up a great popular bath-resort in this country has already attracted an increasing number of persons.

In this country, there are innumerable springs of all grades, but so far they have never been managed with scientific accuracy or developed on other than along commercial lines.

In England and on the continent, inferior springs have been developed by towns and cities and most elaborate bathing facilities have been provided. Physicians in attendance have prescribed the number of baths and time of taking them with great minuteness, until hydrotherapy has developed into an art-science, far beyond anything seen in this country. The Saratoga commission purposes to follow these great systems and to establish an American spa for invalids on a scale proportionate to the size of our country.

One fact is already evident at this early stage, namely, that the gas-baths are going to be very prominent in the treatment of heart and circulatory disorders. Another fact is, that the radio value of these waters is going to be studied, and experiments are to be made that will determine their medicinal value. All persons visiting the East should stop off at Saratoga and become acquainted with this new movement that is the beginning of a hydrotherapeutic work that will extend to every state in the Union.

Saratoga will be the ideal place and pioneer field for the promotion of the health-giving properties of water. The state of New York does things on a large scale and with a degree of accuracy that promises great advances in the future.

While the middle and the far west have many springs of great value, they all lack the development and utilization which has begun at Saratoga, and which will grow into a degree of perfection in the near future. Persons interested in this great movement should write the Reservation Commission of Saratoga Springs, and secure a last report.

T. D. CROTHERS.

Hartford, Conn.

A HEMORRHOIDAL OPERATION

On May 26 I was called to another city to operate on a man 70 years of age, the trouble being hemorrhoids, both external and internal, of 20 years' standing. General anesthesia was contraindicated, on account of the patient's age and his heart condition.

At 10 a. m. I gave him one No. 1 H-M-C tablet, and at 10:30 I gave him one No. 2 tablet. He walked to the operating-room, I prepared him for the operation, dilated the sphincters, removed several internal and external hemorrhoids, and not a bit of pain was felt by him. Then he walked back to bed in a semiconscious condition, and was amazed, when he came to, to find the operation completed.

I cannot be too profuse in my praises of H-M-C as an anesthetic, especially where general anesthesia is contraindicated.

HARRY E. DUFFEY.

Atlanta, Ga.

KEROSENE-ENEMAS

Reading in a late CLINIC about various experiences with kerosene-enemas, I am tempted to speak of one of mine that possibly may prove of interest to some of your readers.

In the summer of 1896, a boy 7 years of age was taken violently ill, and when I first saw him his temperature registered 103° F., respiration was 125, he was very nervous, always asked for water, but vomited everything he ingested; the abdomen was greatly distended and tympanitic. I learned that he had not had a passage for five or six days, also that the bowels had been poulticed for six or eight hours with peach leaves. Deep pressure revealed high, up in the bowels, a hard mass of about the size of a large baseball, but much elongated. I was told that, before the attack, the boy had been playing in the wheat-field for several days. He had been given salts and castor-oil several times, but without results.

I saw at once that we had to do with an extreme case of impaction in the transverse colon, so, got busy to remove it by means of enemas. At first I used a strong solution of salt in warm water, which I had great difficulty in injecting; but it brought away only a few very hard clay-colored balls. These enemas, with the addition of soap, were repeated several times, but nothing further came away, and the hard mass above remained untouched. Meanwhile the patient grew worse, and began to vomit a dark-green offensive substance. I told the father that the boy was in an extremely critical condition and that I was obliged to resort to extreme measures.

I was considering what kind of oils could be used to advantage—was there anything that would penetrate a brick wall? Finally, I concluded that, if anything would, it would be kerosene. I determined to try it. I called for the oil-can, filled the half-gallon fountain-syringe two-thirds full with the coal-oil, then hung the bag high up on the wall. I got the colon-tube from my emergency-bag, disinfected it, oiled it, then placed the little sufferer in knee-breast position and proceeded to insert the tube. This accomplished, I inserted the nozzle of the syringe into the colon-tube, then let the oil flow. Meantime the nurse was trying to hold his temperature within the bounds of reason by means of cold spongings and big fans.

It had taken so long to get all the kerosene in that I was fearful of the result. I did some manipulating, trying to alter the disposition of the intestinal coils. At last the contents of the syringe had gone somewhere through the colon-tube, and I was anxious to get the right results. I withdrew the tube, but kept the little fellow on all fours for a little while longer. Then, after a while, I placed him in a more comfortable position—for better or for worse. I made him lie as still as possible, when, in about half an hour, I noticed that flatus was beginning to escape, and, putting my ear to his abdomen, I could hear a little gurgling and creaking sound in the upper belly. With hopes raised, I began to do a little rubbing, with deep pressure, along the course of the transverse colon, when, all of a sudden, things began to happen, and I never in all my life saw such a mess and mass—green,

slimy grains of wheat, beards from the ears, besides a lot of other stuff of an offensive nature—voided by any person of his age. The battle was won. The lamp-oil did it. Everybody was happy.

When the boy felt better, he confessed to having eaten the wheat while out in the field. The child continued a little feverish for about a week, but I kept him on castor-oil given twice a day, and that ended the trouble.

Since this striking experience, I never hesitate to resort to the kerosene-injections in all cases of fecal impaction. I have made use of them in children whose bowels were impacted after eating mesquite beans, which are very prone to give rise to this trouble. I have often used it introduced through the colon-tube, for inflammation of the appendix, and I always get good results.

However, kerosene has other virtues. Thus I have used it in snake bite in live stock, and found it the best thing that I ever tried. If applied early for snake bite in a horse, wrapping the wound with a soft cloth and keeping the place saturated with the oil for a few hours, you will have but little swelling and your horse will not care much for a rattler's bite. In fact, I believe it is a good remedy for any poisonous insect bite or sting. I believe it would be a good remedy for gangrene. Do not be afraid of kerosene. Give it a fair trial and you will not regret it.

But, as you have well said, you should have an extra supply of rubber tubes and syringes, for coal-oil will ruin all rubber with which it comes in contact; worse, even, than do oil, fat, and petrolatum. I often administer it floated on warm water, which protects the rubber to a great extent, the oil floating, proceeding ahead of the water. This method gives good results, but is not quite so effective as when introduced without water. I should be glad to hear from others on this subject.

THOS. A. RAPE.

Ballinger, Tex.

SIMPLE MECHANICAL MEASURE TO STOP NASAL HEMORRHAGE

I have read with interest Dr. D. H. Stewart's method of treating nasal hemorrhage, as printed in the September CLINIC (page 860), and having had to treat several cases of severe nasal hemorrhage, most of which were associated with Bright's disease, I want to describe the treatment successfully employed by me.

I pass an ordinary flexible rubber catheter through the nares down to the pharynx, where I grasp it with a forceps and draw it out through the mouth. Then to the end of the catheter I attach a cord of sufficient length to reach through the nares and return through the mouth. Next, I tie a pledget of sheet lint to the middle of this cord, then tie one end of the cord to the end of the catheter and withdraw the latter with the cord. In this way, the pledget of lint in the pharynx is drawn firmly against the posterior nares. Finally, by means of the cord, another pledget of lint is fixed firmly against the anterior nares. In this way, a clot of blood will form, thus thoroughly plugging the nostrils. I leave these plugs of lint in place for two or three days. These are cases such as every physician is liable to meet with at any time, and the simple means of combating them, as here presented, are at every doctor's disposition.

GEO. D. STANTON.

Stonington, Conn.

SEVEN YEARS IN HELL

Owing to the fact that a physician's work is intimately connected with social confidences and friendly relations, the persistent hounding by a cutthroat competitor may well be described as hell.

The aggressive tactics of a modern physician, when unhampered by the restraining chains of honor, ethics, and common human feeling, are devilish in the extreme. Such men promenade in the public eye with an exterior of innocent-lamb's wool, while, ever ready for instant action, the flesh-tearing claws of the hyena are just beneath. As a rule, they are men of ability, suave in appearance, and have a low, confidence-inspiring tone of voice that is effective in the methods which they pursue.

Ever animated by selfish and overbearing zeal, these men worm their way into vantage points of action, where, treading upon the necks of natural brothers, they climb higher and higher toward personal aggrandizement and financial success. Consultations furnish one of the most fruitful fields of their satanic activities. How easy it is to venomize the confiding heart of a friendly patient, and turn his kindly feelings into vitriolic hate and evil aggression.

How easy it is to make use of a chance opportunity to undermine honest worth and make it appear as a jumble of inefficiency and deceit. How easy it is to assume a plausible

stand of superiority, unmasked honesty, and condescending graciousness. How easy it is to pose as a deliverer and win the heartfelt gratitude of unsuspecting minds, filling them to surfeit with apparent cause for just resentment against a predecessor. How easy, under the guise of ethics, to announce a high order of honor by asking that relations with a former physician be clearly terminated before his own superior services are rendered. How easy to maintain a position of respect in the local church, prayer meeting, and medical society, as a cloak of concealment for lines of action that rival the atrocities of arch-demons in hell.

Yet, this is but a faint picture of professional activity as it may be found in many quiet communities of kindly intentioned people.

And the worst of all its effects is the blighting of ideality; the stifling of worthy endeavor; the denervation of aspiration; the destruction of incentive for nobility of character; the loss of abiding faith in common humanity.

The soul thus treated is silenced by the searing of the caustic coals of fiery hate; withered by the hot breath of foul lies; distorted from beauty to ugliness by undeserved disappointment.

Under these conditions, life loses its vision of a worthy goal and the promise of eternal peace is obscured by the sulphuric emanations of an earthly hell. And this is professional competition!

A. D. HARD.

Marshall, Minn.

USING COMMON SENSE IN TREATING BURNS

About thirty-five years ago, I knew of an instance where a woman had her clothing burned from her body and the learned (?) doctors opened the blisters and, then, after about a week of torture unequaled by anything in this world, those same learned doctors (?) burned her with hot irons, in order to cause new skin to form, as they said.

Is it any wonder that the poor creature very promptly died?

Now, what is the rational treatment of burns? In the first place, immerse the burned area, whether small or large, in cold water until, on exposure to air, the severe pains no longer occur. Why is this? The immersion in cold water fullfils two urgent needs, namely, it alleviates the pain and it supplies water to the burned tissues—water constituting five-sixths of their makeup. Then, what is the second thing to think about? Do not be in a hurry to open the blisters! Why not? Because nature forms the blister as a soft covering and protection for the exposed and sensitive nerve-endings. When the blisters become tight and uncomfortable to the patient, they may be punctured in several places with a sterile needle, and the serum allowed to ooze out slowly. Then what is to be considered? We must think of how to heal the burned tissues; and this is to apply a saturated solution of picric acid upon lint or fluffy gauze, keeping the pad wet all the time. Then, when the wound needs cleaning, do it with hydrogen-peroxide solution, and renew the picric acid. Try it, and be convinced.

T. F. P.

——, Washington.

COMBATING TYPHUS FEVER

Typhus fever (this disease not infrequently referred to simply as typhus, and also variously known as exanthemic or petechial typhus, camp-, ship-, hospital-fever, and spotted-typhus-fever; although in the United States "spotted fever" is applied more commonly to cerebrospinal meningitis, and, more recently, to socalled Rocky Mountain fever) is but rarely encountered in this country and not very often in non-Slavic Europe, with the inclusion of Austria-Hungary; although up to the middle of the last century those countries were subject to typhus epidemics. However, owing to its exceeding infectiousness, for centuries Europe had been ravaged by epidemics, more especially during times of war, the scourge spreading terror among the nations, and proving disproportionately fatal to the attendants, both those nursing and those treating the victims.

Official statistics for European Russia enumerated the number of persons having contracted typhus fever, in recent years, respectively as follows: 1910, 132,425; 1911, 113,473; 1913, 93,195. In Galicia, the Polish province of Austria, the disease has continued endemic. In the decennium of 1904–1913, the number of cases officially reported for Germany were, respective per year, as follows: 2, 16, 3, 17, 9, 7, 4, 12, 5, 7. The percentage of deaths within recent years has been calculated at about 1 in 7, or, not quite 15 percent.

While the western hemisphere has, happily, been free thus far, we should be prepared for the worst, in view of the fearful prevalence

and virulency of this deadly plague in war-swept Serbia, Russia, and Austrian provinces, together with moderately active intercommunication between those countries and our own; and it is for this reason that we do not hesitate to present, in the following, a free translation and partial condensation of the salient portions of an official announcement uttered at the close of last year by the Department of Health of the German Government.

The introductory statement, that the pathogenic microbe has not as yet been discovered, no longer holds true, inasmuch as since then, as our readers know, the culpable germ (bacillus typhi exanthematici) has positively been identified by our countryman, young Doctor Plotz. This fact, of course, will contribute greatly toward a rational and effective control of this infection, the more so, since an effective prophylactic vaccine also seems to have been evolved.

Forewarned is to be forearmed, although, with our modern sanitary organization and intelligent cooperation of an enlightened people and press, great epidemics, as of yore, no longer need be feared. We are now assiduously swatting the fly and the mosquito, albeit altogether too little enthusiasm is being vented with reference to the bedbug, the louse, the flea, the roach. As to this amiable quartette, our newspaper-scientists should urgently be dissuaded from proclaiming the fly as the one great—the greatest—menace that must be exterminated; thus lulling people back into a continued sufferance of these latter, less intrudingly conspicuous enemy-pests (and so confirming folk in their lazy-dirty habits); when, in fact, those darkness-loving creatures are accused of being responsible for the spread of bubonic plague, syphilis, tuberculosis, cancer, and various other grave maladies not just now called to mind.

The suggestions, as reprinted in the *Muenchener Medizinische Wochenschrift* (1914, p. 2431), follow:

Diagnostication: The period of incubation for typhus fever is about one or two weeks. Occasionally, a few days before the actual outbreak prodromal symptoms are observed, notably weakness, headache, vertigo, lack of appetite, increased thirst, feeling hot and then chilliness, and muscular pains.

The onset itself occurs rather suddenly, with a marked chill, the temperature thereupon rapidly rising to 40° C. (104° F.) or higher; occasionally there is vomiting. Within a few days, a strong feeling of sickness develops, together with depression, extreme weakness, and increased pain in the head, sacrum and limbs; the fever rising, with an almost constant temperature at around 40° C. (104° F.) or more, abating but slightly during early morning.

Simultaneously, nervous disturbances are evidenced, these consisting in an excruciating headache, flickering before the eyes, noises in the ears, and, in severe attacks, perturbed consciousness that rapidly passes into complete loss of consciousness and then delirium. The face glows, the skin feels hot, the tongue is dry and thickly coated. Frequently, also, catarrhal conditions develop; signs of an extensive bronchitis make their appearance, while catarrh of the nose and conjunctiva may complicate the picture. Almost always there is swelling of the spleen.

Between the third and fifth day, numerous slightly elevated diffuse pale roseola-like spots, some of the size of lentils, break out over the trunk, limbs, and sometimes the face; these at first showing a purely hyperemic character and occasionally greatly resembling the eruption of measles. In severe attacks, these lesions will assume a bluish discoloration or, in consequence of hemic extravasation, they may become petechial.

In the milder forms, as a rule, the fever diminishes and the general condition improves during the course of the second week; while, on the other hand, if of severe type, all the symptoms increase in severity. Under these circumstances, in the presence of a very high fever, the status typhosus becomes fully developed. The mind becomes more obscured; the patient, with face deep-red, lies indifferent, mouth and eyes half-open, tongue parched, and utterly prostrate and exhausted. Sometimes, however, he may exhibit considerable nervous unrest and even a tendency to leave the bed. The voice assumes a hoarse tone. Owing to the weakened heart, hypostatic indurations form in the dependent portions of the lung. These conditions may terminate in death.

However, if the course of the disease proceeds favorably, the fever recedes at the end of the second week or during the third, frequently under profuse sweating, in the form of crisis; the exanthem bleaches out rapidly, the whole condition improves, and the patient enters upon recovery.

But, sometimes the attack may be very light, so that such a severe clinical picture is not presented; the temperature not rising high and grave general conditions being absent. Such patients, though, particularly if ambulant, constitute a decided danger for all

with whom they come in contact. These cases, when occurring sporadically, may present difficulties in promptly establishing their recognition; although suspicion can be verified, in case a typhus-epidemic obtains somewhere, by investigating the modes of intercourse and communications of the patient.

It is highly important to differentiate between the true exanthemic (spotted) typhus fever and abdominal typhus fever, better termed typhoid fever.

In spotted typhus fever, the real onset is sudden and attains its acme extremely rapidly; in typhoid fever, on the other hand, the clinical picture develops gradually (steplike increase of temperature, slow rise of pulse-curve, and so on). So, also, the fever, in typhus, ordinarily recedes far more rapidly than in typhoid fever. Furthermore, as already mentioned, the fever-curve of typhus is virtually a continuous one, with perhaps slight declines in the morning-hours; while, in the case of typhoid fever, the temperature generally drops one degree centigrade, or more, every morning.

Virtually without exception, pronounced intestinal symptoms are almost completely absent in typhus. Another sign facilitating a differential diagnosis is presented by the exanthem, which appears substantially sooner in typhus than in typhoid fever (not before the second week in the latter), while also being more generally distributed over the body, and, moreover, in typhoid fever but exceptionally assuming a petechial character. Finally, bacteriologic and serologic tests should dispel any further doubts.

A mistaken diagnosis of relapsing-fever should be prevented by the essential difference in the respective courses of the fever in the two, as also the absence of the spirochete of Obermeier. With reference to measles, it is to be remembered that the existence of the latter is rendered probable by the presence of Koplik's spots on the mucosa of the mouth, as also the greater involvement of the face by the eruption. At times, the question of excluding hemorrhagic variola, syphilitic roseola, meningitis, influenza, and septic or medicamentous exanthem may have to be solved.

The important question of the mode of transmission of typhus fever has found a solution only quite recently, and is not as yet completely closed. It now is definitely known that at least one predominating agency are blood-sucking vermin, notably the three varieties of lice infesting humans; and, that the pathogenic parasite is thus transferred from person to person. This discovery incidentally throws light upon the oldtime experience, that the sleeping-places for migratory folk, lodgings, and asylums, constitute the principal breeding-spots of this plague. Furthermore, the prevalent conviction, that the victims preeminently are homeless vagrants, beggars, gipsies, vagabonds, and peddlers, now finds ready corroboration; and, more, that it is during wartimes and the cold winter months when its spread is most general.

As soon as a physician has established a case of typhus fever, or even when entertaining only such a suspicion, it is his duty [This and other phases are regulated by strict imperial laws of Germany] to report it forthwith, and such patient must be rigorously isolated; and, in view of the danger of the disease being communicated to the persons about him, he should be conveyed as quickly as possible to the pest house.

The transportation of typhus-patients, including suspects, must not be by means of public vehicles of any kind or street-cars, but, whenever available, an ambulance should be requisitioned; otherwise, some other conveyance is to be improvised under the doctor's supervision. These conveyances must be thoroughly disinfected immediately afterward; likewise every person who has been associated with or helped to transport the patient. Furthermore, every recent change of residence must forthwith be reported to the authorities.

Everybody engaged in caring for the patient should avoid associating with other people as far as practicable. Inside the sick-room, these persons should wear washable gowns, which are to be left in a special closet upon leaving the room. They must guard against harboring vermin. It is best that during a typhus-epidemic the nurses be immune, from having had the malady themselves.

The most effective measure for preventing communication of the disease is to rid the patient of all vermin, if he is thus afflicted. To this end, the patient is given a thorough scrubbing (conformable to his state of vigor) with warm water and soap; the hair (best clipped short) and scalp are treated with a reliable insecticide (kerosene, sabadilla-vinegar, eucalyptus-oil, balsam of Peru, and the like); then clean under- and overgarments are provided. Then the patient is taken to a constantly ventilated room (this latter measure, according to empirical experience, notably minimizing the danger of infection).

The body-garments, bed-linen, towels, and all washable garments that have been used

by the patient are immediately to be placed in water, to which soda [or borax] may be added, and kept boiling for not less than fifteen minutes, the articles the while being completely covered by the water. The boiler should be covered.

Everything else that has been used by the patient, but may not be washed (garments, blankets, pillows, mattresses, and the like), are to be treated, in an autoclave, with superheated steam, which not only disinfects them, but destroys any vermin present. As customary, unmanageable articles of little value are burnt. However, all articles transported to the steam-disinfecting plant must, on the way, be covered with cloths wrung out of a weak solution of cresol, phenol or mercuric chloride. Furs and pelts are best treated with dilute cresol-solution, for exterminating any vermin.

The habitation or the rooms occupied and frequented by the patient at the time of his attack also must be completely disinfected and cleared of all infesting vermin. For this twofold purpose, formaldehyde is not sufficient, inasmuch as these vapors do not penetrate enough to kill hidden vermin. Consequently, liberal use is to be made of dilute solutions of cresol or phenol, this thorough washing and scouring best to be supplemented by and immediately following fumigation with sulphurous vapor [Burning of sulphur, *in the presence of water-vapor.*—THE TRANSLATOR.], which must be thorough.

In the present state of our knowledge—or, un-knowledge—the possibility of infection also by means of contact with the person of the patient not being positively excluded, all other known precautions adopted in the case of other infectious diseases must, of course, be taken by everybody associated with typhus-fever patients.

It may be added that Julius Springer, Berlin, publishes, in pamphlet form, the various official orders issued by the German imperial council in relation to infectious diseases.

FIFTEEN DOCTORS WANTED

The American Board of Commissioners for Foreign Missions needs at once fifteen surgeons and physicians for work in mission fields. Nine are wanted for China, four for Turkey, one for Africa and, most urgent of all, one at once for relief work in Serbia, with station at Monastir. This latter call is in the nature of a "special" and may appeal to some doctor who wants to give two years or so to humanitarian service. The need is tremendous; the Board has the money and the location. The man must be thoroughly first-class as to equipment and devotion.

For China, six men and three women are wanted to join hospitals already running which treat from 10,000 to 30,000 cases a year. The new men and women will be associated with surgeons in charge.

In four hospitals in Turkey, physicians are wanted in association with doctors already on the ground. The American hospitals have increased their influence enormously during these months of war and the men on the ground must be re-enforced. In Durban, Africa, a physician-surgeon is urgently needed.

The Board lays down no sectarian test, but does insist on earnest Christian consecration on the part of physicians whom it sends out. The candidates should be not over thirty-five years of age. In equipment the Board requires a degree from a distinctly first-class institution and in addition an interneship or its equivalent. Specialization is not demanded, though special preparation is welcomed. Details as to service may be secured from Dr. C. H. Patton, 14 Beacon Street. Boston.

THE BATTLE WITH THE BODY-LOUSE, AND TYPHUS

Now that lice, preeminently body-lice, have definitely been demonstrated to be the chief agent of disseminating the deadly typhus fever—the plague against which medical art still stands hopeless and helpless—relentless war against those literally pestiferous parasites flourishing during war has become an object of gravest concern to the guardians of the lives of nations; consequently measures dealing with this problem these days are of highest importance. So, while during the past year or so the question of the extermination of lice—all three species—has received considerable attention (although not with an eye to this particular malady), the following note abstracted from the *Muenchener Medizinische Wochenschrift* (Jan. 15, p. 67) no doubt will interest many of our readers. The article was contributed by S. von Provazek, of the Institute for Tropical Diseases, at Hamburg.

The epidemic spread of a virulent type of typhus fever, conditioned by the wars of recent years in the Slavic districts of Europe, naturally has stimulated scientific investigation; one important result of this being, that it is not merely the adult body-louse (pedicu-

lus vestimenti) which conveys the pathogenic germ, but that the germs are transmitted to the succeeding brood of the parasite, and, so, they in their turn are capable of infecting human beings. (Sergent, Foley, Vialatti.) Because quinine, methylene-blue, salvarsan, arsalyl; in fact, all therapeutic attacks of every kind have failed, the imperative need, in view of present knowledge, of eradication of the culpable parasites is clear, and that, above all, must include destruction of the nits; consequently, also, we must know something about the life-story of the parasite.

In order to propagate, the female must, ordinarily, suck itself full with blood (human) twice in twenty-four hours, and the rapidity of digestion is determined by the environmental temperature. For the conveyance of typhus fever, it is obligatory that the experimental louse remain alive for some time after its first (infective) suck. There obtains a strong probability that a species of superinfection can take place, inasmuch as observation seems to indicate that the course of the disease is relatively much more severe in patients who are being constantly inoculated anew, as compared with those who are immediately cleaned and nursed in a louse-free environment.

In laboratory-experiments (Nicolle), it has been found that the body-louse will attach itself to monkeys, less readily to cavies, while quite unwillingly taking the blood of rats and mice; in fact, kept in glass vessels together with the latter, they generally die inside of from twenty-four to forty-eight hours, for they do not live without food longer than that, although on rare occasions persisting three or even four days. They must be kept between warm pieces of broadcloth and fed once or twice a day. However, a continuous temperature of over 30° C. is harmful, and they perish when it attains to 35 degrees. This explains why the body-louse is found in the highlands of Mexico, for example, but is not prevalent in the hot coastal regions. The reason why body-lice (as already pointed out in these columns) show a predelection for the regions of the neck, back, and waist is, because the close-fitting garments at these points provide greater warmth. Otherwise, they like to hide in between the threads of coarse weaves where the threads cross. Older writers (e. g. Landois) mention that these lice will bore into the skin and can be found on the edges of crusted louse-sores.

A female body-louse lays, in succession, from 70 to 80 eggs (the head-louse, 50); while her progeny, in the brief period of eight weeks, mounts to the startling number of 5000. These nits are deposited in the sutures and seams of the garments and bedding, and are hatched after three or four days, according to the temperature. They become sexually mature in from fifteen to eighteen days; the same being essentially true for head-lice.

From the mass of pediculicides recommended in current literature, Doctor Provazek has culled those which, in his opinion and experience, seem to be the more suitable and useful, and which are here repeated. Although in part they have been mentioned in these pages on former occasions, repetition not too obtrusive cannot harm.

Briefly stated, the lice-destroyers named by the author are: (1) 5-percent solution of xylol in oil. (2) Decoction of tobacco—weight of one cigar in a quart. (3) Vapor of iodoform. (4) Asafetida—repeated here only as a curiosity. (5) Benzin. (6) Carbon disulphide; applied by means of a wad of cotton. Xylol, benzin, and carbon disulphide, the author explains, cause a burning sensation in the pubic region; however, these volatile substances kill the eggs in textiles when put in tight containers. The latter object also is attained by means of sulphur-fumes, steam or an autoclave. The volatile liquids must be placed at the bottom. (7) Insect-powder. (8) Various volatile aromatic oils: anise, fennel, eucalyptus, clove. These oils to be diluted with alcohol; also a little to be placed in the body-linen. These oils also are useful for fleas.

The prophylaxis of typhus fever consisting, preeminently, in the elimination of the body-louse, especially, but also of the two other varieties, measures to that end become of greatest importance. A number of such (although with no eye on this problem) have been presented in these columns during the past two years, to which the following, proposed by A. Blaschko, the well-known Berlin physician (*Deut. Med. Woch.*, 1914, No. 52), may here be added:

For eradicating body-lice, and preventing bites, the entire body should be anointed with petrolatum containing 5 percent of naphthalin. Also, in the case of soldiers, every man should carry one or two ounces of naphthalin in fine powder, half a teaspoonful of this to be dusted in around his shirt-collar when he feels any itching; while, in addition, it is suggested that he might wear a naphthalin-pouch suspended from the neck, and, still more, some of the powder might be sprinkled be-

tween the bed-sheets. Not a pleasant prescription; but drastic measures are justified, particularly under circumstances such as prevail in the present war.

As for head-lice, Blaschko recommends that the hair of the soldiers be shorn short with the clipping machine. This, though, hardly could be carried out during a winter-campaign, although, indeed, proposed in the month of December, and notably for the armies operating against Russia.

A course of experiments, undertaken at the instance of the director of the Institute, Professor Nocht, established a number of facts of some interest. In the first place, the sex-mature pediculi are less resistant than the younger, more active ones. With regard to practicable parasiticides, with reference to armies in the field, the author postulates the following conditions they must meet: (1) applicability under the most primitive circumstances; (2) must not soil garments, bedding, skin; (3) must not be too volatile nor inflammable; (4) easily procurable.

These demands, all of them, the author finds in the four aromatic oils above enumerated, with oil of anise at the head. From 30 to 40 parts of genuine pure oil of anise (or fennel) is dissolved in 60 to 70 parts (by weight) of 96-percent alcohol, and this rubbed into the skin and also the infested portions of the garments. Some of the experiments consisted in placing body-lice (collected in cotton wads) in jars filled with the etheroleum vapors of differing degrees of concentration and temperature, and noting the effects and time required to kill.

SEPSIS FOLLOWING A SOFT CORN

A man, about 50 years old, cut away a soft corn between the two small toes of one of his feet, causing profuse bleeding. Later, the wound began to be very sore and became very offensive, and when I was called, the odor was so bad that I could hardly stand it. I started treatment by applying chinosol-solution (1 chinosol tablet to 2 quarts of water), then bound up the foot. I called in another physician, to administer the anesthetic while I dressed the wound. A nurse continually poured on the chinosol-solution, which was kept hot. I wrapped the foot in gauze, placed cotton on top, and then more gauze, leaving an opening so that the nurse could continue pouring the hot antiseptic solution into it. We kept on dressing the foot in this way for three months. I saturated the patient with calcium sulphide, also gave echinacea, together with iron, quinine and strychnine. At the end of three months the man was up and now is attending to his business, walking normally.

When first seen, the foot was black away up the side; the family insisted upon my amputating it, because so many of their friends and another physician had advised doing so. I told them that, if they wanted this done, they must get another physician.

The result of my refusal is seen in the above narrative.

J. B. Ross,

Chicago, Ill.

CURRENT COMMENT BY A COUNTRY DOCTOR

Just German Measles.—Doesn't amount to much. Not much; but look at the anxieties it has caused and the possibilities it presents. These are slight for the disease itself, except in occasional cases where weakened resistance gives especially good ground for attack. The main element of seriousness is the multiple opportunities for diagnostic error presented in rubella. Textbook descriptions of the type-cases of the exanthema are clear and precise, but the deviations from type are so frequent that identification is often difficult, even after the appearance of the eruption.

We may say that one disease of the group having early throat manifestations is easily eliminated by demonstration of the Klebs-Loeffler bacillus, but even this diagnostic aid may fail us or not be readily available. Susceptible tonsils or intercurrent tonsillitis may be present, and further chance for diagnostic error or omission thus be presented previous to a general appearance of skin-symptoms, even if these are typical.

Thus the early decision as to disease-identity in scarlatina, measles, and German measles on throat- and cervical-gland-symptoms is liable to be impossible. The character of eruption and rotation of parts upon which it shows is so varying that one might almost as well make a typhoid-fever diagnosis upon those spots, supposed to be there, in that disease.

Diagnosis with the type-case and history of exposure is comparatively easy, but these are not the cases under discussion. It is the atypical cases that present possibilities for error. It may be that even here, in the presence of endemic or epidemic prevalence, errors are made and cases of sporadic roetheln included with those of scarlatina. We here

candidly and modestly admit that by no chance have we ever committed this error, but it may have occurred to some practitioner not enjoying the gift of infallibility. If so, ten to one, he got by with the proposition and possibly does not yet know of it.

If we say scarlet-fever, off-hand, we are likely to excite the family unduly, and our diagnostic reputation will receive a black eye that will be a long time disappearing. Another factor is that of quarantine or isolation.

At the appearance of suspected measles or of scarlatina, rubella is at least to be thought of. Even in scarlatina the case is seldom one presenting an eruption that promptly excludes everything else. The time of "breaking-out" is not to be relied upon, as it is often impossible to tell at what point in disease-duration external manifestation first occurred. Prodromes may have been slight or ill-observed.

Fortunately the treatment of the contagious exanthemas is practically the same in all—symptomatic—and we practice isolation so far as possible, even in follicular tonsillitis. As for the exanthemas, even in suspected cases, isolation is supplemented by such degree of quarantine and other precaution against spread as may be possible. However, no one wishes to decorate a house needlessly with a scarlet-fever sign on mere suspicion. The anxious desire is for quick diagnosis; but there may have to be a little of that watchful waiting; this, combined with generalization of existing symptoms, the exclusion of those absent and a history of exposure must be relied upon.

In measles, look for that coryza and cough.

In scarlatina, look for that nausea and initial chill, together with the rapid, wiry pulse, and a throat making one think of tonsillitis or diphtheria; but do not forget that a similar symptom-grouping may show in rubella. The pulse may have been influenced by medicines, hence, is not entitled to too great diagnostic value.

Who can draw a finger over a scarlatina eruption and make a diagnosis on that "white line" and the centering of spots around the hair-follicles of an infant? Or, are they willing to wait for possible demonstration of albumin in the urine?

Now, please, add to diagnostic difficulty a patient with skin the color of the ace of spades in a slightly used deck, or of new saddle, but with full power to spread disease to "de w'ite folks's" and you will have more trouble.

Do not make a mistake! Do not consider your erudite learning, your high standing of many years' duration. You are on trial, always, and guilty until proven innocent. Even now old Bill Z's wife and Aunt Zaphira both know you are wrong. They await a semblance of proof. Even now they are in session in Bill's back yard and ready to start the news of the awful double mistake—on the family's part, for getting the wrong doctor, and on yours, one which was natural in a person of your incompetency; an incompetency that should have been demonstrated to the neighborhood long ago. As to spreading the news, why, the marvelous discovery of Marconi is an obsolete and time-worn institution as compared with the way the S. O. S. will be spread.

The treatment! Oh! Atropine and aconite are oftenest indicated, and saturation with calcium sulphide is emphatically worth while.

Another Word on "Twilight Sleep."—The acceptance of painless, or partly painless, midwifery as a routine and practical procedure is becoming more general. The consensus of public opinion is demanding that women be saved danger and agony at their time of greatest trial. As for me, it is an established custom, no contraindications being present—with the H-M-C combination they are practically eliminated—to use hyoscine and morphine when attending labor-cases. In fact, it is my custom also to use this combination in practically all but very minor surgical procedures.

The error to be guarded against in confinement is, the use of too much of either drug. Just get a partial amnesia, to start with, and use the morphine in its indicated form, the hydrobromide—the brain-sedative effect of the Br radicle being here called for. The case requires watching, but the technic, with modifications to suit circumstances, is as available in Coonskin Hollow, Rubendale Township, as in Freiburg, Germany.

Without a large series of cases to report, there are no "blue babies" and no untoward maternal facts to be enumerated. The system of treatment is simply a part of the routine of a busy country doctor's practice. One of its beauties is, that, with proper conservatism, no vital function is held in such subordination as to prevent use of other measures. The patient can be roused to help herself or pituitrin can be used if indicated, if the properly regulated *small dose* is used, repeated if necessary.

Doctor Wakefield's article in *The American Journal of Obstetrics*, quoted in August CLINICAL MEDICINE, is most admirable. The only modification occurring would be the substitu-

tion of the Br for the Cl radicle in the morphine molecule combination. This may be chemist's crankism, but it looks rational. The call seems to be for rationalism.

Medical Economics.—With appreciation, the receipt of recent numbers of *The Medical Economist*, organ of the Federation of Medical Economic Leagues, of New York, is acknowledged. There is nothing in this publication about "twilight sleep," resection of the abducent nerve for strabisimus, nor, yet, about treatment of "yaller chills" in the swamps. It is devoted entirely to the economic aspect of medical practice. This subject is receiving energetic, if delayed, action at the hands of most of the general medical press, but there is full room for a publication handling the subject exclusively. We take the position, held by many philosophical thinkers, that economic determinism is the nearest approach to a personal devil. The doctor, in common with all others of his race, will be better to himself and to others if given proper economic surroundings. Correction of economic conditions should be taken up by medical societies everywhere; in the larger places, organizations for this work exclusively are needed.

There was, doubtless, a day in the past when doctors as a class—not the isolated and fortunately situated individual only—got their full share of what was then produced. This was in the days of the priest-craft medicine-combination. If the public was careless about the "free will" offerings to Hygiea and Panacea, the therapeutic wheels paused and the superstition department was run overtime until proper realization of neglect upon the part of the laity of that remote epoch was brought about. The priest-physicians rode the populace with double cinches, hobbled stirrups, and a spur of superstition while dispensing their mixed medicine and mythology. Since then superstition has not entirely died out, but the modern physician, although becoming more worthy of the title doctor-teacher, must look out for the collecting-end, or his usefulness to the people as well as enjoyment of his own life will be most seriously handicapped.

We live in an age demanding attainment, yet, one which refuses to permit it without that portable means of representing the unportable, known as the peso, pound sterling, and almighty dollar in different political divisions. It is time we got together and, at least partly, eradicated economic error from our lives. Let us raise the opsonic index of the financial current so that there will be more of those white metal discs in evidence. Let the count be nearer normal. It will be better for the public and for ourselves. When the demand is for socialization of this essential branch of public service, we shall be found ready; but in the meantime it is up to us to place ourselves upon the proper level in the social edifice as now constituted.

Selecting himself as an example, the signer of these transient thoughts upon economics believes that the average doctor accepts more of what users of colloquialism term hot air, in lieu of matter in nongaseous state, than does anyone else. This does not apply to the exceptional man, but to those who, the writer believes, constitute the majority of the profession.

Our clientele are entitled to the very best that is in us. For them to get this, we must have time for study, new books, new instruments, and opportunity for rest and recreation, to recuperate to a high standard of physical excellence that alone can permit a well-stored brain to work with ready resource and high efficiency at all times.

Incidentally, that lady who has the fire burning and the coffee hot when the doctor comes in out of the blackness of the stormy night, the one who ministers to him in moments of relaxation, trouble, and intense anxiety, even while seeing the scarce collections go out for gasolin or the very best of medicine for Mrs. Someoneelse, is entitled to something in this life. And the children, also.

If there is something of truth in these lines, doctor, read a paper at the next meeting of your society. "Cash or Charity" will be a good title, or, "THE LABORER IS WORTHY OF HIS HIRE."

A. L. Nourse.

Sawyerville, Ala.

ON THE FIRING-LINE

The frequent charges and countercharges to which we have become so accustomed have strangely decreased. The policy of our troops is, not to charge over the trenches unless there is some distinct object and prospect of extending our lines. We have always repelled the charges of the enemy and often driven them back out of the trenches, but unless the place was particularly favorable we have not occupied these trenches, except so far as they were useful for further work.

A change evidently has come over the battle-front. Artillery firing is more frequent, and sometimes for days there will be

a continuous roar from early sunrise until dark. The shells falling in different directions have done very little damage and the number of wounded and dead had dropped to a minimum. At one of the central hospitals, not more than 50 passed through in a week. Sometimes several days will go without anyone being brought in; and this gives the hospital-men an opportunity to perfect arrangements of first care and transportation.

Many of the boys in the trenches who have been in service some time are unfit for further duty and, so, go to the rear, where they can become rested, or else they undertake some hospital-work. Many of them get furloughs back home for thirty to sixty days. The new men who take their places are very enthusiastic and anxious to see service.

Officers and men are in a kind of quandary-state to know just what is coming. No matter how much the enemy may mass his troops at any one point, there is doubt as to whether he ever will break through. Enormous stores of guns and ammunitions are being gathered along the line at different points, and autotrucks are prepared to transport them rapidly to any particular place, together with men. If it were not for the guns, one hardly would suppose that large bodies of men were concealed in trenches and behind embankments, ready to start up at any moment.

The airmen are the real scouts and protectors of our lines. They are constantly hovering overhead, observing the changes, pointing out the location of the big guns, and signaling to the gunners where to send their shells. That they are effective, is evident from the sudden changes in the firing of the enemy. Shells that have come from particular points suddenly will cease and the firing will come from another section. Probably the same thing occurs on the side of the allies.

A very heavy gun will take a certain position after being concealed by brush. The gunners will proceed to entrench themselves where fragments of shells can not hit them, then, at a signal from the airmen, they send shells directly to a given point. After a dozen or more shots have been fired, the gunners on the other side will locate this gun and shots will fall in its neighborhood. Then the firing will subside for an hour or so, and then another gun a quarter of a mile away will start in. This in turn will become a target after a while, after which the first gun will take up the charge again. The exploding shells scatter great fragments, but only occasionally someone is hurt.

Roads to the rear of the line are constantly being repaired and made ready for service; also wires are strung up all-about. Hospital-supplies are perfected and gathered where they are most likely to be of service. The general impression is, that, before the campaign ends, there will be some fearful drives along part of the line, in an effort of the Germans to break through toward Calais. At any rate, so far as a doctor can guess, it is evident that there will be some fearful fighting along these lines if anything of this kind should be attempted.

In the meantime, the surgeons and assistants are enjoying a degree of quietude that, were it not for the cannon-roar, would be almost monotonous. Knives and all medical appliances are furnished and put in the most available places. Records are written up and dates are verified. Commanding officers are inspecting the ground constantly, so as to know what to do in case of any sudden emergency.

The warm weather brings an anxiety for the water-supplies, and attention is turned to prevent it from being polluted. A gang of driven-well men are putting wells wherever the necessity occurs, and pure water brought up from a depth of from 50 to 75 feet is ample for all emergencies. (I may here interpolate that the farmers back from the rear are going on with their work just as usual; potatoes and garden-vegetables are being raised with little or no interruption, and the sale of them is very rapid right at home.)

The topographical engineers are fixing points for future reference and markings. Burial parties are covering up trenches that have served as burying grounds in the past but were not completely covered at the time. Out on the front, very sharp scrutiny is kept, to prevent a gas-charge, while general desultory rifle-fighting is going on around.

A view from an aeroplane 2000 feet up reveals very little of the actual condition of affairs. Back in the rear of the Germans, trains and autos are moving slowly. The trenches are largely concealed and the guns can nowhere be seen. Occasionally little groups of men appear here and there on some little hill or elevation, but the whole country looks placid. Far away in the rear, the smoke from moving railroad engines can be seen, and now and then a captive balloon starts up several hundred feet in the air and you see in the basket underneath a group of officers peering out in all directions. The aviator at my side is signaling at someone away below, with little flashlights, the result of

his observation. If he discovers the location of a battery or a trench that seems to be crowded with men, he conveys this information by flashlight signals, giving the location and the direction where shells will be the most effectual.

With all this constant cannonading, there is little or no smoke. The powder used is smokeless, and only a short distance from the gun you see a little smoke following the discharge of a shell. If it should strike in sandy soil, a cloud of dust, that goes away gradually, will be raised.

The general health of the soldiers is very good. Very little of the camp-diseases are met with, and back in the rear the sick-call is attended by but very few soldiers. Tents, barracks, and various coverings are scattered all along at intervals, so that the soldiers are almost certain to have comfortable resting places when not on duty in the trenches.

At one place along the line, two very large springs have been turned into bathhouses, and the water supply furnishes most grateful relief to all the soldiers in the neighborhood. A gasolin-pump forces the water up into a tank, from whence it is drawn in showers or into tubs, while the gasolin furnishes the heat for warming the water.

When the German aviators are in sight, all the men seek cover, and those who are passing from one place to another get behind fences and barns so as not to attract attention. If any body of men were seen moving here and there, long-range guns would soon send shells into that neighborhood, to their peril. Probably our guns do the same thing, particularly wherever a group of men can be seen or what is thought to be a wagon-train or moving body. In clear weather, all this passing of troops in the rear is stopped; but in cloudy weather and in the early evening, men come and go to the trenches and bodies of men are shifted from point to point.

As an example of the sharp scrutiny and accurate knowledge of the movement of troops on either side, the following incident may be stated. One afternoon, it was reported that large bodies of men were massed in a certain woods, back of the German trenches. This meant a charge very soon, as the artillery-fire was violent in that direction. Instantly troops were concentrated all along that line, machine-guns on autos were driven up and put in position, and the hospital-force was increased. Transport-autos were hurried into that neighborhood. All was expectation, but nothing happened. The artillery-fire died out and a watchful, expectant night passed without any sign of an attack. What really happened was, that the balloon and the aviators on the enemy's side saw the concentration of troops and preparations made to meet their charge, and, so, the charge was called off. Their general realized that such a charge would be a waste of men and might provoke a countercharge, in which they might lose their trenches.

The espionage is very sharp along these lines, and strangers in the hospitals or in the ranks are scrutinized very carefully; for spies are everywhere, despite all the best-made plans. Thus, a German will, in some way or another, be injured between the lines and taken prisoner. Unless he is taken back to the rear very quickly, he will communicate with his friends, in some way, the strength of the line and certain other information that will surprise one by its accuracy.

These are episodes occurring every little while. The accuracy of the gunners, and the perfection, is very evident to good observers, and the artillery duels going on all the time, in which shells are thrown from two to ten miles, and often doing very effective work, give some idea of this modern warfare. Occasionally a gun will be damaged by a shell or a fragment of a shell. This is replaced very quickly by a more modern one, with a bewildering set of gauges and levers, to insure accuracy in its firing.

As would be expected, a great many of the gunners suffer from punctured ear-drums. Many of them insist upon remaining at their post and going on with their work as usual. It is found that nearly all of the gunners, when relieved from duty, suffer from a peculiar kind of depression, and exhaustion, which continues for two or three days, unless they are sent far back from the front.

One is surprised to realize how far the roar of the cannons is heard. Eight miles to our rear, there is a large field hospital. At times, the inmates of this hospital start up with great excitement when the cannonading is excessive. When the sound is subdued, like a long, low distant murmur, it has the effect of soothing rather than exciting. Medical men and officers talk a great deal about the psychical effect, and nearly everyone has some story to tell that sounds very weird and strange.

When the war is over, there will arise a great literature upon the mental effects on the troops in the trenches and under other strange, unforseen conditions that give the life here a continuous tension.

No visitors are permitted along the line. Occasionally an officer brings in somebody, to look around a little, but he is taken back quickly.

A feeling of expectancy, amounting almost to a dread of the future, makes the work along the line very hard. If we could be ordered to advance at once, there would be an excitement and hopefulness that would rouse a new spirit in the troops, but lying here, subject to the possibility of a charge any moment, and the constant dread of shells that are liable to come in any time, at almost any place, keeps one in a disturbed condition.

"BRITON."

"PEACH-POISONING" AND POTASSIUM IODIDE

I had a peculiar case the other day, one which might be repeated many times during the peach-season of the year, for the reason that we always have among us an abundance of syphilitics who are taking potassium iodide.

A traveling man came in the office and said, "Doctor, I have been poisoned on peaches."

"What makes you think so?" I asked.

"Well," said he, "look at my spit."

I did. It was blue-black and continued so for half an hour. Then he showed me some of the peaches, and they were healthy specimens. It never occurred to me for several hours that he was a syphilitic and was taking large doses of potassium iodide, and that this combined with the starch of the peach.

C. V. HIGH, JR.

Coleman, Mich.

[A peculiar case, but not poisoning. Also, we are a little doubtful as to the correctness of Doctor High's explanation of the "black spit." Thousands of people are taking potassium iodide every day, and if this were likely to be decomposed with release of sufficient free iodine in the saliva to react in the presence of fruit starch, then nearly every person using the drug would present this phenomenon after eating. Were there not other factors? Was the patient taking any other medicine at the same time? Iron, for instance, when associated with the iodides may break them up, with release of free iodine. The peaches may have been peeled with a rusty knife. Can any of our readers relate similar experiences, or give a satisfactory explanation of this discoloration?—ED.]

THE INJECTION-TREATMENT OF HEMORRHOIDS: ANOTHER COMMENT

In the April number of "our journal," you quote from *The Therapeutist*, part of my article on the injection-treatment of hemorrhoids, and in the May number there is a query from Doctor Collins, asking about the correctness of the formula.

I am pleased with your reply to him, and also with your statement as to the action of the carbolic acid in that strength. It is, indeed, much safer and much more pleasantly effective than any of the other combinations in which the phenol is more diluted. One thing, perhaps, I did not make plain. The needle should be passed nearly through the tumor, and from side to side—not from above downward; then, as it is being withdrawn, cause the carbolic acid to reach the mass everywhere, even if it is necessary to pass the needle point to one side or the other of the first line of injection. Nothing further is necessary, although as a rule I prescribe some bland ointment to be applied for a few days.

I also have been having a little pellagra experience that may be interesting to the brotherhood. August 15 a mother brought me a puny boy, 3 years old, whose face, arms, and legs were peeling as if badly sunburned, and whose mouth was sore. I was told that he had a troublesome diarrhea, and was constantly thirsty. It being my first case of the kind, I called in a confrere to corroborate my diagnosis of pellagra.

For local treatment, I gave an ointment of ichthyol, and prescribed, symptomatically (after Scudder), rhus toxicodendron, nux vomica, and nitrohydrochloric acid; also galactenzyme. Three days later, the child was improving, and I added ipecac. After four days more, I put the child on quinine hydrobromide, because I had seen this praised as almost a specific; however, after a week, it was seriously worse, being unable to take food, while the condition of the bowels also was worse. I now prescribed a mixture, consisting of 2 grains of resorcin and 2 drops of tincture of iodine, in each teaspoonful of water; one dose to be given every three hours. I also prescribed rhus, aconite, and liquor of potassium arsenate; bovinine for nourishment. After three days, the child was improving, so, the medicines were continued. It is now three weeks since my last

visit, and today a neighbor tells me that the eruptions are all gone and the child seems well.

I told the parents that the child would need attention, probably, for some months, as there was danger of recurrence.

C. A. FREEMAN.

Geary, Okla.

[The formula given by Doctor Freeman in the little article published in our April number was as follows:

Carbolic acid, crystals.....drs. 7
Glycerin.....dr. 1
Cocaine hydrochloride.....grs. 20

Doctor Collins raised the question whether it was safe to use such a concentrated solution of carbolic acid. We replied as follows: "There is no need to fear any dire disaster from this formula; only 2 or 3 drops are injected into the tumor. In fact, the stronger the carbolic acid, the safer the procedure becomes, for, practically pure carbolic acid immediately and unfailingly coagulates the albumin of the tissues, so that there is no absorption and the hemorrhoid itself quickly sloughs off." We might have added, as is so clearly pointed out in the foregoing by Doctor Freeman, that the concentrated solution really is safer than a more dilute one, since the latter is much more likely to be absorbed into the blood, whereupon it exercises its toxic action.

We are interested in pellagra. Indeed, this is a topic which is deservedly attracting a great deal of attention, especially in the southern states, where hundreds of physicians are struggling to find some remedy upon which they can depend. We believe that Doctor Freeman's first line of treatment proved unsatisfactory because it was irritant to the alimentary canal. Practically always in pellagra there are present stomatitis and gastroenteritis, so that any remedies employed should be sedative rather than irritant. Emetine and ipecac, when taken by the mouth, frequently cause nausea and vomiting and, if given in fairly large doses, may actually produce alimentary irritation and inflammation. When the emetine is given hypodermically, it seems to exert a very favorable effect, probably because it directly destroys or at least antagonizes some infectious element the nature of which we do not yet know.

Quinine hydrobromide certainly acts nicely in these cases. This is a remedy particularly praised by Dr. Isadore Dyer, of New Orleans. We have no doubt that the resorcin would prove of value, since it acts as an intestinal antiseptic, and remedies of this class most probably are indicated. Arsenic is very generally prescribed throughout the South in the treatment of pellagra, the most frequent manner of administering it being in the form of subcutaneous injection of sodium cacodylate, a form of arsenic which is readily tolerated and only slightly toxic.

As we have so frequently stated, we have great faith in the use of calcium sulphide in this disease. This writer has had the pleasure of meeting Doctor Mizell, of Atlanta, who has treated hundreds of patients with this remedy, in association with dietetic control; and the results are certainly most happy ones.

We have observed with interest that a number of Texas physicians are using, in their pellagra cases, local applications of a 1-percent solution of picric acid, with very good results. This fact is reported upon at considerable extent in a recent number of *The Texas State Journal of Medicine*. This is also referred to in the article by Doctor Fairbanks, which appears elsewhere in this issue of CLINICAL MEDICINE.—ED.]

OUT-OF-BED TREATMENT OF PNEUMONIA

A startling announcement has been made by Ch. Widmer (*Muench. Med. Woch.*, 1914, p. 1161), to the effect that a "large number" of his pneumonia-patients have been permitted to leave the bed for four to six hours every day, right from the start. He claims for this regimen a beneficial physical influence, the delirium ceasing, normal desire for sleep making its appearance, fever receding slightly, frequency of respiration becoming less, and blood pressure increasing. But, would this be true in really severe attacks, especially when the circulatory system has already been palpably damaged? Surely, a great risk would seem to be involved in such a course and much courage required for undertaking it. Take no chances!

EMETINE IN PSORIASIS: ANOTHER CASE

Recently I have used emetine hydrochloride in treating a little boy, 5 years of age, who was covered from head to foot with psoriatic patches. On account of the child's age and size, I gave only 1-4 grain of the alkaloid at a dose, administered hypodermically; the injections being repeated once a

week. The child's skin is now perfectly clean and free from eruption.

Prior to using the emetine, I had given an ichthyol-ointment a faithful trial, but without any results whatever.

A. GEO. BAKER.

Philadelphia, Pa.

[Last month Doctor Campbell, of New York, gave a very interesting report of some cases of psoriasis treated with emetine. In his experience, this alkaloid is effective in cases in which there is an associated pyorrhea. When pyorrhea is absent, it is of much less value.

Psoriasis is such an intractable disease that any addition to the list of remedies of known value is something to be thankful for. We certainly recommend a trial of emetine in every case which refuses to yield to other treatment, especially if pyorrhea alveolaris is present.—ED.]

POTASSIUM-POISONING AS A CAUSE OF PELLAGRA AND SCURVY

About twenty years ago, there came under my observation a typical case of scurvy, in one of my patients; the disease having made its appearance four days after he had finished eating, all alone, in the space of ten days, a 12-pound ham. A few years later, it was my privilege to write an opinion, for the representative of an eastern state board of health, on certain packing-house products preserved with sodium chloride and potassium nitrate. In going over the papers submitted, I found that about 20 grains of potassium nitrate were present in each pound of ham, bacon, and other preserved meats. From this I arrived at the conclusion that the patient who had consumed that 12-pound ham within ten days had been poisoned by potassium nitrate, having taken in not less than 200, perhaps 300, grains of potassium nitrate and the same amount of sodium chloride. I therefore concluded that meats preserved with potassium nitrate and sodium chloride, when eaten in large quantities, would cause scurvy. The action of an excess of potassium nitrate in nitrogenous compounds will cause scurvy; and pellagra also is caused by an excess of potassium nitrate when taken in conjunction with carbohydrates.

Pellagra is a chemical disease, caused by the introduction of an excessive quantity of potassium, associated with sodium, magnesium, and calcium in starchy foods, and often in adulterations in meat preservatives. In every 4 ounces of corn-bread, there are about 2 grains of potassium, from the corn, besides that in the saleratus used in the making; and in every 1-10 of a pound of bacon or ham, there are nearly 2 grains of potassium, so that an individual eating this amount would ingest at least 4 grains of potassium with an ordinary meal, not counting the sodium, magnesium, and calcium.

In nearly every case of pellagra that I have investigated, I have found that the patients were hominy-eaters. Hominy is made from corn and prepared with lye; lye being potassium hydrate. Pellagrins also usually eat bacon and ham, or corn-bread and canned corn, and by this diet saturate their bodies with potassium, changing the acid phosphates of potassium of the brain and nerves to alkaline phosphates.

By surcharging the brain, muscles, and nerves with potassium, the phosphates are dissolved from the nerves and brain-tissue, as well as the muscles, and this weakens the individual; nerves break down, the brain gives way, and the patient becomes insane and dies. This disease is first manifested by diarrhea, indigestion, gastritis, dermatitis, stomatitis, and salivation. In those who go into the sun or light, especially, the disease is localized in the skin as potassium hydrate, which, being caustic, tends to set up a dermatitis and exerts a saponifying action upon the skin-fats.

I have recently discovered a test that, to my knowledge, has never been mentioned. The perspiration of a typical pellagrin is alkaline, changing red litmus-paper to blue. The secretions of the ulcerations on the arms and face are intensely alkaline, and the odor is similar to that of soap; for that is the process that is really taking place upon and beneath the skin, due to the air causing a deposit of potassium hydrate.

The renowned Bouchard, of Paris, in his book on autointoxication, says that potassium is thirty times more poisonous than sodium. Billroth caused scurvy in frogs with sodium chloride.

In a private letter, Dr. H. W. Wiley, quoting from Wolff, states that 33.92 percent of the ash from corn is potassium carbonate. The average composition of the ash of corn, is as follows:

Potassa, 33.92 p. c.; soda, 7.72 p. c.; lime, 3.18 p. c.; magnesia, 17.99 p. c.; iron, 0.50 p. c.; phosphoric acid, 35.25 p. c.; sulphuric acid, 0.44 p. c.; silica, 1.0 p. c.; moisture, 10.83 p. c.; proteins, 9.88 p. c.; fat, 4.17 p. c.; ash, 1.36

p. c.; cellulose, 1.71 p. c.; carbohydrates, principally starch, 71.95 p. c.

Therefore, when corn is used as a food, and the other substances taken along with it also contain a large quantity of potassium, there is a likelihood of intoxication with this substance. Hence, people who are taking potassium medication or who partake of corn-foods along with ham or bacon may develop gastric and intestinal indigestion and ulcerations that present all the characteristics of chronic potassium-poisoning.

Potassium-poisoning, pellagra, and scurvy all present the following symptoms:

Stomatitis, gingivitis, gastritis, diarrhea, vomiting, diminished coagulabilty of the blood, disintigration of red blood-corpuscles, dermatitis, physical exhaustion, mental depression, and insanity.

Another point: Pellagra occurs frequently in insane-asylums, where the bromide-salts are largely used and hominy is much used as a food. Scurvy is more frequent on ships and in prisons.

To summarize: Large numbers of patients have pellagra when fed on a diet of "hog and hominy"; while those controlled and fed mainly on meat as in prisons suffer from scurvy. In the Peoria (Illinois) Insane Hospital, there were between 80 and 90 cases of pellagra, and the investigators failed to discover any cause, after a month of investigation; yet, they overlooked the fact that 10,000 pounds of hominy made in the institution were fed to the inmates, and the attendants who ate separate foods were not attacked.

Dr. Joseph Goldberger recently announced that he had discovered the cause of pellagra in the consumption of an excess of starchy foods. He came near the truth; it was the excess of potassium in the starchy foods which caused the pellagra. Doctor Ledbetter and Doctor Dowling, both of New Orleans, recently announced that pellagra was noncontagious, and they were absolutely correct.

I have had one case of pellagra, in a syphilitic patient. I put him on potassium iodide, and he grew rapidly worse. As soon as I could eliminate the potassium, he grew better; but, in trying to control the syphilis, I again put him on iodide of potassium, whereupon his fingers and toes became gangrenous and he died.

For several years I have had under observation a patient who never ate corn or cottonseed-oil, in any way; his diet consisting of bacon, this containing 20 grains of potassium nitrate to the pound, and saleratus-raised biscuits. Changing his diet to fresh beef and light bread, he recovered, but on going back to his saleratus-biscuits and bacon, he relapsed. Substituting baking-powder biscuits, containing 10 grains of alum, the patient again recovered, except for slight discoloration on the face.

M. H. EVANS.

Joplin, Mo.

[We regret that we have been compelled to condense Doctor Evans's address slightly. It was read before the Cherokee County Medical Society, Galena, Kansas, on August 11, 1915.—ED.]

SODIUM STARVATION AND PELLAGRA

In the March, 1915, number of CLINICAL MEDICINE, there were printed three articles on the subject of pellagra, of one of which I was the author, and in which I tried to demonstrate the probability of the cause of the disorder being a diminished sodium equilibrium of the body-economy. Coincident with this, was an article by Doctor Perdue, in which that writer recommended the use of sodium citrate, but assigned a different cause to the disease, namely, the presence of colloidal silica in drinking-water.

Since then, I have observed that quite a number of clinicians have been using the sodium-treatment, while I myself also have had opportunities to employ it, with most gratifying results. A patient who has been under treatment for some time, but who has been able to have the injections given only at intermittent periods, always shows marked improvement during such a course of the injections, but begins to fall off again almost immediately upon being stopped.

This fact would seem to be an important confirmation of the equilibrium-theory; for, physiology teaches that, when the sodium equilibrium is low, most of the salt ingested is excreted again until the point is reached where the equilibrium is raised to normal. My patient receives no other medicines besides the sodium-citrate injections (daily 20 to 25 minims of a 10-percent solution) and, by mouth, half a teaspoonful of sodium bicarbonate in a glass of water, taken three times a day, two hours after meals; also, when necessary, enemata of sodium bicarbonate every three or four hours, in order to control diarrhea and tenesmus.

Other doctors in Texas, I find, have recently been using picric acid, and report brilliant results.

Some doctors, we see, use one thing and some use something else, and all these remedies seem to act as specifics; and this fact leads to the inquiry as to whether the cause of pellagra may not lie in some chemical condition of the tissues the nature of which could be discovered if each of these putative specifics were closely studied as to its physiological and chemical behavior.

It may be that these multifarious remedies all produce the same ultimate result, some directly and others perhaps indirectly, in that they serve to increase the percentage of sodium in the body. The purin-bodies are great devourers of sodium, and I have discovered that tomatoes, which are rich in purins, are particularly injurious to pellagrins.

If, then, sodium is taken in and assimilated in sufficient amount to neutralize these acid bodies of one's food, or, if a substance other than a sodium compound is furnished, one that will combine with them and thus save the systemic sodium, these purins cause no untoward symptoms, merely being oxidized and excreted. With this in mind, I have inquired of Mexican doctors as to the prevalence of pellagra in that country, and they declare that it practically does not occur there. It is well known that the Mexicans subsist principally upon corn products, but also that large amounts of lime and soda are used in the preparation of their corn.

The favorable action of picric acid in this disease possibly may be ascribed to its powerful oxidizing qualities, whereby it substitutes itself for the sodium bound up in the purin-combinations and thus sets this sodium free to be utilized by the tissues. Also, when oxidized, the purins are readily excreted and, consequently, eliminate the trouble-makers from the system.

A perusal of my March article will show authentic proof that arsenic retards the formation of purins; calcium sulphide will, doubtless, combine with them, as a substitute for sodium; and we know that the elimination of certain articles from the diet decreases the amount of purins. May we not, then, with reason, suspect that all the other reputed curative substances may possibly be acting in some such way also?

GEO. D. FAIRBANKS.

Brownsville, Tex.

ANOTHER SMALL BABY

I was greatly interested in the report, in your June issue, by Doctor Campbell, of Sabinal, Texas, regarding the small baby. I can report a similar case here.

The child was born at the end of the thirtieth week of pregnancy, and the labor, with breech presentation, was a dry and unusually long one. At birth, the baby weighed less than 2 pounds and looked like a little old man, but now the look of senility has been replaced by one of healthful infancy.

A small baby.

At 6 months, it had an attack of bronchitis (temperature 104° F. for a short time). The baby, whose picture I enclose, is now 13 months old and weighs 15 pounds.

This baby, whose mother is 37 years old, has three brothers and two sisters. At present, the little fellow gives promise of developing into an intelligent, useful citizen, of whom we shall be justly proud.

J. T. THOMAS.

Caledon, Ontario, Canada.

PRECOCIOUS DEMENTIA, AND THYMUS INSUFFICIENCY

In a contribution to the *Norsk Magazine for Laegevidenskaben* (1915, No. 10), B. Ebbell advances the theory that dementia præcox in some way is connected with some primary anomaly of the thymus gland; for, he declares, both the clinical as well as the pathologic-anatomic changes can be explained as a sequence of thymus insufficiency.

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

[*Continued from page 977, October issue.*]

AS the result of neuritis, the function of the muscle is affected, there is pain on motion, and frequently there are painful twitchings and muscular contractions. The tactile sensation of the part may be deadened even where there is increased pain. In the chronic type, severe pain is not generally present, but there remains a soreness and numbness for a long time. This is particularly true of the brachial neuritis, and the great pain and soreness often is most felt when the arm is lowered after having been elevated. In some cases, there can be felt a swollen cordlike sensation, with a distinct tenderness upon pressure. In this form of neuritis, degenerative changes may take place, causing loss of motion and atrophy, and in the involvement of the musculospiral nerve there may be wrist-drop. An extension of the process may cause contracture of the fingers, or the so-called claw-hand.

If the neuritis is of the rheumatic type, nodules may be found on the finger-joints. These may or may not be tender. In some, fortunately more rare, cases, there may be the ascending type of neuritis, with a rapid degenerative change, progressing through the main nerve-trunk to the spinal cord. This is more likely to be the result of traumatism than of any other cause.

The larger nerve-trunks are more susceptible to neuritis, and it may extend either up or down, more commonly up. It may become bilateral, either by spinal-cord extension or through the sympathetic system. There may be slow or sluggish reaction to the constant current or the reaction may be almost as pronounced as in the normal muscle.

The duration of neuritis varies from a few days to several months, according to the involvement.

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The cases that most frequently come to our notice are those of the milder type. In these, there are no degenerative changes. They show marked tenderness on pressure upon the affected areas, and relief is sought because of the pain, felt principally when the muscle is in use, while less so when in repose. In the brachial form, the pain is greatest when the arm is elevated, as in combing the hair or in buttoning the dress.

In the sciatic form of neuritis, there may be a history of gout or rheumatism. Here the involvement is of the trunk of the nerve or its cords of origin. The most sensitive points usually are over the sciatic notch or at a point about the middle of the thigh. The inflammation often is interstitial, and the nerve is red and swollen, as is demonstrable at the time of operation of stretching. The pain is of the burning or boring type, and may be paroxysmal, but often is constant and usually worse at night. Posture and motion generally affect it, and one is prone to walk on the tip of the toes, in order to prevent jarring and to relieve the tension. In some cases of long standing, we find considerable muscular atrophy. Occasionally there may be found herpes along the course of the nerve.

The diagnosis usually is easy, but there is a possibility of confusing it with sacroiliac disease. The use of the x-ray will easily determine this.

The prognosis, as a rule, is good, but the time required for a cure is variable, owing to the many factors present in the given case.

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The treatment of neuritis may be considered from both the medicinal and the physiotherapeutic standpoints. The usual form of treatment with drugs has ever been most unsatisfactory, particularly when the sciatic nerve is involved; therefore, it is natural that the live physician should look around for other methods of treatment that may offer some hope. That neuritis in most cases is cured, can easily be demonstrated. There may be a small number of incurable cases, proportionately, but even some of these may be benefited if treated by means of physical methods. This has been proved repeatedly by a number of physicians who have used these measures.

In the treatment of neuritis, we must not lose sight of the causative factors of the individual cases, for, these often are guides to a successful outcome. We must take into consideration the patient's method of living, occupation, diet, and habits in general, if we are to expect the best results, for we must not treat cases empirically. If the diet is faulty, correct it, for, we often find that the patient does not use a well-balanced diet, especially in those cases of lowered nutrition. This holds good also in some cases in which neuritis follows a long spell of sickness, when vitality is lowered and diet has been faulty.

If occupation is a cause, wherein pressure upon a nerve or set of nerves acts as the factor, the first thing to do is, of course, to stop the work, at least temporarily, giving the nerve a chance to rest and recover.

In those cases of neuritis associated with other diseases, it is important to treat the systemic fault at the same time that the neuritis is being attended to.

It is not unusual to have neuritis in cases of toxic hypertension, and here it is very essential to care for this high blood pressure, by the use of the high-frequency current by the autocondensation method. Diet here plays an important part, for the proteids must be very largely cut out, if not entirely.

Neuritis from pressure merits more than passing attention. These cases are not always patent, but require considerable study and investigation. This particularly obtains in the sciatic form. In women, we must bear in mind the possibility of uterine displacements as also pressure from poorly fitting corsets. In men, we should examine each case for a possible enlargement of the prostate gland, even though there be no vesical symptoms to attract one's attention to that part. In either sex, we may find indurations causing pressure, so that it always is important to follow the nerve course by palpation, in order to locate any pressure from this cause. Adhesions to the muscle-sheath or at a point of exit of the nerve from the bone play their part. In these cases, manipulation properly applied has great value. This can be demonstrated in the occipital and supraorbital types. To treat neuritis successfully, one must be willing to recognize all kinds of treatments that have proven of value, even though this may lead to a radical departure from all of the laid-down methods of the past.

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I wish to say a few words now about arthritis deformans. I have an opportunity of studying a great number of patients suffering from this disease, and, while I believe that in many cases the disease can be traced to a pathogenic germ, not all of them can, by any means. Many cases of arthritis deformans arise at those periods at which the metabolism of the tissues is undergoing a marked change, such as puberty and the climacteric. I believe that the disease may be due to some infection, and also it may be owing to some nervous disturbance not necessarily the result of any germ but, rather, perhaps, to a toxemia affecting nutrition. There seems to be, unquestionably, a tendency in some families to this disease, or, rather, to be more exact, a tendency to inflammation of joints and fibrous structures. Thus, a family history of various rheumatic affections and gout is often elicited. Moreover, women are more subject to the disease than are men, in the proportion of, between five and ten, to one.

In practically every case of arthritis deformans that I have treated, I have found a high degree of urinary acidity, with, in the majority of instances, marked indicanuria. Acidemia and intestinal toxemia are frequent accompaniments of the disease. I have not succeeded in relieving the distressing symptoms much until I have overcome the acidemia and intestinal toxemia. I have noticed also that fully ninety percent of patients afflicted with arthritis deformans suffer also from neuritis and are obstinately constipated. The mud-baths seem to have a good effect in these cases, but, in addition, we see to it that the bowels are kept free and intestinal fermentation is lessened as much as possible, digestion improved, and the acidemia reduced by means of appropriate alkalis.

If a primary focus of infection is found, treatment is instituted accordingly, preferably with autogenous vaccines. Passive and active exercise are indicated, according to the condition. Of drugs, I have found guaiacol carbonate, arsenic, iron, and in some cases potassium iodide to be of the most value. General tonic treatment is indicated, of course. The high-frequency current, by improving the general nutrition of the patient and restoring the nervous tone, sometimes is of service, but the local conditions are very little affected.

Regarding diet, I am accustomed to prescribe one that is more than usually nutritious, save in cases complicated with gout or occurring in plethoric elderly women at the climacteric. I allow my patients to have meat, fats, vegetables, and fruits. Starchy

foods, pastry, and sugar being prone to excite flatulent dyspepsia and intestinal toxemia, are to be limited.

I do not give my patients any special dietary, save sometimes those suffering from dilatation of the stomach or marked gastric or intestinal indigestion. I do not think it is so much a question of the kind of food in these cases as it is the quantity at each meal. I advise them to eat often and lightly, but of good nutritious food.

While these subjects cannot be completely cured, I think much can be done to relieve many of the distressing symptoms and to check the further progress of the disease.

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It affords me great pleasure to observe the renewed interest that is being taken in therapeutics, for, I believe that our ultimate concern, as a profession, is, the prevention and cure of disease. The therapeutic art is the final goal to which the training of the medical student should be directed. As Jacobi recently said: "We live in the era of therapy—therapy in political, social, and individual life."

I have maintained for years that the best way to do away with nostrums is, to provide for our medical students thorough courses in materia medica, medical pharmacy, pharmacology, and therapeutics. The way to abolish proprietary medicines is, to teach medical students how to prescribe and to acquaint them with the physiologic and therapeutic action of drugs; they should be taught how to write or compound prescriptions so combined as to meet the indications for which the prescription is intended, in a scientific manner.

If our medical students were able to do this, there would be fewer therapeutic nihilists; secret nostrums would be relegated to antiquity and it would mark the beginning of the end of sectarian schools of medicine. But, how is it now? There are many colleges that do not teach materia medica and therapeutics at all, and there are some state examining boards that do not examine on these subjects. The average medical student today comes out of college with very little knowledge of these branches. He goes to the bedside, ignorant of these matters and not knowing the action, uses, nor, many times, the doses of drugs; and, not knowing how to write a prescription, he naturally falls back on some nostrum. Is it any wonder that the people resort to "patent medicines" and patronize quacks? Physicians, themselves, are to blame for the discredit which the lay press casts upon the medical profession, not alone because of their ignorance and skepticism regarding the value of drugs, but because of the bitter controversies among themselves.

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There are in our ranks therapeutic nihilists and therapeutic enthusiasts, and the illiberality, bigotry, and "scrapping" of these men over nonessentials have retarded progress in therapeutics. At the best, as Gregg says, "our advance has been rather by slow and patient endeavor and calm and deferred judgment—line upon line, precept upon precept, here a little and there a little." So have we climbed and so must we continue to plod along our way. The history of medicine is full of the announcements of cures and systems of cures that in most instances have been relegated to the rubbish heap by the test of time. After all, we have few, if any, specifics. The practice of medicine still is difficult and oftentimes discouraging; but, after all, our best therapeutic friends are, perhaps, the old time-honored drugs.

Socalled nonmedicinal therapeutics have a place, and a large one, in the healing-scheme, but they can never entirely replace drugs in the treatment of disease. It is our duty to seek a happy medium between therapeutic nihilism and polypharmacy, and even to study the principles that govern the rational treatment of disease.

Our aim, as teachers of therapeutics, should be, if possible, to make it a science as well as an art, to teach rational rather than empirical methods, and to trace the relations between therapeutics and biology. We must confess, however, that we are still far from being able to explain the principles of much of our treatment, and a great deal of our drug treatment still is empirical; but the rational increases every day, and much of the old empirical disappears. While the modern physician is dissatisfied, and should be dissatisfied, with empiricism, we cannot as yet abandon all our empirical methods. We knew, as did our ancestors two hundred years ago, that mercury is good treatment for syphilis, but only recently have we learned why mercury thus acts as a specific. We believe that the salicylic radicle is useful in acute articular rheumatism, and we guess at the secret of its efficacy. We speak of certain drugs as "specific" for certain diseases, meaning thereby that they seldom fail to produce good effects, but as to the infinite number of processes intervening between the administration of the drug and the beneficial result we know next to nothing.

Among the Books

LEWIS: "THE HEART"

Lectures on the Heart. By Thomas Lewis, M. D., D. Sc. New York: Paul B. Hoeber. 1915. Price $2.00.

This little monograph comprises five lectures delivered by the author while on this side of the Atlantic in 1914; three of them being the Herter lectures, given at Johns Hopkins University; one, the Harvey lecture, delivered at New York; and one, an address made to the faculty of medicine at McGill University, Montreal. The whole is an exposition of the science and clinical application of electrocardiography, as worked out by the author (physician to the City of London Hospital and lecturer on cardiac pathology at University College Hospital, London) in his laboratory and his clinical wards. One of the most important objects of the book, indeed, is, to emphasize the advantages of intimately combining clinical and laboratory observations in the study of this subject. It is not to be expected, of course, that the book will make any great appeal to the average physician, being altogether too elaborate and technical. But there is no doubt that it is a most valuable contribution to the sum of our scientific and clinical knowledge concerning electrocardiography.

BASS AND JOHNS: "PYORRHEA"

Alveolodental Pyorrhea. By Charles C. Bass, M. D., and Foster M. Johns, M. D. Philadelphia and London: The W. B. Saunders Company. 1915. Price $2.50.

Curiously enough, pyorrhea, this subject upon which, above all others, medicine and dentistry have clashed for the last fifty years, seems destined to be the very point upon which they will reunite. For many years medicine has been insisting upon the systemic character of pyorrhea, while dental pathologists have been advancing arguments to establish its purely local nature and its bacteriologic origin. Then came Barrett and Smith, of the University of Pennsylvania, representing respectively the medical and dental departments, and by a masterly series of research and experiment demonstrated that pyorrhea is an entamebiasis, to which, of course, the metabolic condition of the body contributes its etiological role. Then this demonstration was confirmed and further elaborated by the painstaking work of Bass and Johns, both connected with Tulane University (New Orleans), the authors of this book.

The book sets forth the results of the joint work of the authors anent pyorrhea; its principal significance, however, in our opinion, lies in the fact that it calls upon dentistry and medicine henceforth to join hands and merge their forces in a concerted and intelligent crusade against this widespread disease, by developing measures of prophylaxis and of cure. Simultaneously the way to these ends is pointed out by authors, who by their investigations have taught us the nature of the disease. The second half of the book is eminently practical, being devoted wholly to a clinical consideration of the diagnosis and treatment of pyorrhea. Neither doctor nor dentist can afford to ignore this first authoritative presentation of a subject that hourly is growing in importance.

"INTERNATIONAL CLINICS"

International Clinics. Edited by Henry W. Cattell, A. M., M. D. Volume III, twenty-fifth series. 1915. Philadelphia and London: The J. B. Lippincott Company. Price $2.00.

The *piece de resistance* in this latest volume of International Clinics is a clinical lecture on gonorrhea and its complications, by Dr. Lewis Wine Bremerman, of Chicago; which is a capital exposition, in plain, face-to-face language of the author's methods of dealing with the conditions in question—for all the world as though the reader were attending a clinic by the Doctor. It is impossible, of course, to mention by title every article in the volume, let along making any comment upon each one. There is an excellent group of articles, under the heading of Borderland Medicine, worth anybody's while reading and digesting, especially the first and last one of the series, "One Hundred Thousand Men Minus," by John Ashburton Cutter, and

"The Malingerer," by Bernard Glueck. There is also a timely and interesting account of "War Experiences and Observations in Germany and France," by L. Rahm. Other contents of the volume are exceedingly interesting and valuable—no doubt more interesting and valuable to many readers than those which we have singled out for remark.

DELORME: "WAR-SURGERY"

War-Surgery. By Edmond Delorme. Paul B. Hoeber, New York. 1915. Price $1.50.

Every considerable war that has taken place within the lifetime of scientific medicine has evolved many and valuable lessons in surgery; and in medicine, too, for that matter, but, naturally, the most original and *de novo* discoveries and observations have been in the way of surgery, chiefly of emergency-surgery. No man has shown himself a more intelligent observer of these lessons or an abler interpreter of them to the profession than Doctor Delorme, formerly on the consulting health-committee of the French army and now medical inspector in chief.

In the Franco-Prussian war, the American civil war, and the Russo-Japanese war, Doctor Delorme was a close and keen observer of the developments of military surgery, and on each occasion gave the results of his observations to the profession, in the shape of a most interesting and instructive book on the subject. Now, in this greatest of all the wars of history, he is again at the front, alert as ever, and is already beginning to give us the fruits of his experience. In this little book, almost every form of injury received on the firing-line is dealt with, clearly, concisely, illuminatingly. The best feature of the book is the keen judgment with which the author deduces general principles of treatment from the sum of the cases that have come under his observation.

BULKLEY: "CANCER"

Cancer: Its Cause and Treatment. By L. Duncan Bulkley, A. M., M. D. New York: Paul B. Hoeber. 1915. Price $1.50.

Of all the problems yet remaining for solution by medical science, that of cancer is, by all odds, the furthest-reaching and the most serious in its import to mankind at large. It would seem to be the one pathological condition that has steadily refused, and up to the present moment continues to refuse, to yield to modern research a single iota of trustworthy information concerning itself, in spite of the persistent, systematic effort directed toward the task from every angle of attack. Yet, even in the present unsatisfactory state of our knowledge, it would be untrue to say that we are wholly without means of controlling its course; for, we do know at least a few practical points about cancer, thanks, principally, to the painstaking observations of the clinician, which, even if only more or less empirical in nature, nevertheless are of great practical, even scientific, value.

It is what he thus has observed that the author, senior physician at the New York Skin and Cancer Hospital, sets forth in his little book. He takes a decided stand and propounds a positive theory—rather a little too decided and positive, one might be disposed to think, than the status of the subject warrants. At any event, it is a definite contribution to our study of cancer and is constructive, in the sense that it offers positive means of relief. Especially interesting is the author's view on the relation of diet to cancer and his faith in medical agencies of treatment. Whether one agrees with it all or not, he is bound to accord it respectful consideration; and one feels that it contains a great deal of sensible truth.

MUELLER: "LOSS OF HAIR"

Loss of Hair: Baldness, Falling Hair, Prematurely Gray Hair, and Seborrhea, Successfully Treated by the New Quartz-Light-Rays. Translated, from the German of Nagelschmidt, by Richard W. Mueller, M. D. New York: The William R. Jenkins Company. 1915. Price $1.50.

The reviewer remembers quoting to his father, on one occasion, the passage of scripture about money being the root of all evil, to which the latter, who was a shrewd Lowlander with a keen sense of humor, replied that he suspected that the man who made that statement had lurking in his mind the negative idea of the absence of money. Upon reading the title-in-chief of Doctor Mueller's book, the reviewer had much the same sort of notion, though in the reverse direction—that, in speaking of the *loss* of hair, the author had in his mind the positive idea of restoring it. And so it does appear.

Only a very small portion of the book is devoted to a discussion of the loss of hair; by far the greater part deals with the various means of making the hair grow again, and of

this means, as the sub-title implies, the quartz-light radiation forms the base. The author does state, however, that he has found the D'Arsonval-Tesla current "an exceedingly effectual substitute for persons who might not be able or willing to undergo the quartz-light treatment." He adds: "Even in some cases I would recommend the high-frequency treatment in preference to the other."

RUHRAEH: "DISEASES OF CHILDREN"

A Manual of Diseases of Infants and Children. By John Ruhraeh, M. D. Illustrated. Fourth edition, revised and enlarged. Philadelphia and London: The W. B. Saunders Company. 1915. Price $2.50.

No pretense is made, either by the author or the publishers, that this little book can replace the larger, necessary, textbooks on pediatrics, but it is offered for the purpose of enabling the student to grasp quickly the more important parts of the subject and to furnish him with a ready reference-book for clinical use. It represents a careful epitomization of the best textbooks and the most trustworthy of the current literature.

The present edition is considerably larger than the preceding ones, and it contains some important additions, among which may be mentioned an article on pellagra in children, a chapter on drug-eruptions, and also a full account of the Binet-Simon test for the mentality of the child. However, with all this amplification, the present volume has been kept within the limit of size, which makes it peculiarly useful for rapid reference in wards or clinics, and as a deskbook for the practicing physician. The section on infant-feeding is a great deal fuller than one would expect to find in a work of this scope.

BURR: "NERVOUS DISEASES"

Textbook of Nervous Diseases. By Various German Authors. Authorized English Edition, edited by Chas. W. Burr, B. S., M. D. In 2 volumes, with 156 illustrations. Philadelphia: P. Blakiston's Son & Co. 1915. Price $12.00.

The German contributors to this book are all well known to American physicians and need no introduction. The various articles are based upon the personal knowledge and experience of each respective writer, who presents his own well-thought-out and mature opinions. While the work is purely scientific in tone and conservative in attitude (a matter of much importance in these days, when so much wild doctrine is being promulgated, especially as to mental therapeutics), it has not been forgotten that the only useful knowledge is that which leads to sane therapeutics.

The translators have done their work faithfully and given an accurate rendering of the original language. Opinions differ, of course, as to the comparative values of a book written by many authors and of a one-man work. These relative advantages are discussed in the original German edition, but not in the translation; however, this discussion is immaterial, as it does not affect, one way or the other, the intrinsic merits of the work itself. The American editor has retained the many references to European health-resorts, as he explains, not because he expects Americans to go abroad for such treatment (assuredly not in these days), but in order to encourage Americans to develop their own resorts. We trust that this purpose will be achieved.

SEIFERT: "PRACTICAL GYNECOLOGY"

Manual of Practical Gynecology. By M. J. Seifert, A. B., M. D. Chicago: The Chicago Medical Book Company. 1915. Price $3.00.

This book of Doctor Seifert's—who is an attending surgeon and lecturer on gynecology at the St. Mary of Nazareth Hospital, Chicago—represents the fruit of an extensive experience in teaching in the University of Illinois College of Medicine and other medical schools, and is published at the request of many of those who attended the author's lectures and clinics. It embodies several valuable features, among which the following may be mentioned: a new method of classification of distinct teaching-value; a plain, concise, comprehensive presentation of the physiology, pathology, and therapeutics of gynecology; instructions for the pre- and postoperative care of gynecological patients; menus and recipes for invalid diet and helpful suggestions for nursing; also a chapter on word analysis as applicable to medical nomenclature, a pronouncing glossary, and a profuse series of illustrations, the latter new and specially prepared for the text.

All in all, the book is a very practical one, and it should enjoy a large sale among nurses in training-schools and among those practitioners who are interested in gynecological work. It is full of practical ideas not found in other books of the kind and will fill a place not yet occupied by books on the subject by other authors.

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Answer to Query

ANSWER TO QUERY 6028.—"Tic Douloureux." In reply to this query, published in the September number of CLINICAL MEDICINE (p. 887), I want to say that 30 grains of ammonium chloride, dispensed in camphor-water, and repeated every six hours, will cure tic douloureux. I have used it frequently, and always successfully.

W. S. CLINE.

Woodstock, Va.

Queries

QUERY 6042.—"Salpingitis." R. N. DaC., Illinois, has under treatment a woman 33 years of age, mother of five children, who till just before birth of the last child had always enjoyed good health. The husband contracted gonorrhea and the wife, not aware of this, refused medical advice when affected, with the unfortunate result that the newborn's eyes were infected; moreover, she had an ignorant midwife, and, so, the baby's eyes were neglected. At last the woman did seek medical advice, when the physician ordered her to the hospital. What was done there our correspondent does not know, but she refused to submit to the operation advised and now suffers from a variety of pelvic symptoms. This condition has existed for five or six months, and the baby has not been nursed since it was a month old.

"Examination disclosed her heart and lungs to be normal. The area about the appendix is tender, even painful, under palpation; her left side only slightly so. There is more space at rhe left and upper side of the os uteri ahan at the right, and at this point, it is only painful upon rather deep pressure; the right side seems swollen and is very painful upon the slightest pressure with the speculum; the os is discharging a yellow creamy pus and thick stringy blood-streaked mucus; the cervix and upper vagina are swollen and sodden-looking. After thorough cleansing, an attempt was made to draw down the uterus, but failed, the procedure being too painful. So, the vagina was packed with sterile gauze and a 4-inch bandage placed, to afford support. Later, the husband acknowledged infecting his wife, but said it would be absolutely useless to talk operation, whether there was pus in the tubes or not—and that is why they discharged the other doctor. Now, I want your best and most practical advice as to how to proceed to stop this pus, bleeding, and soreness; that is, the inflammation. I have textbooks, it's true; but, after I have read them, I find nothing to cover this case."

Frankly, doctor, you are in a very unfortunate position, and were we in your place, we should insist, absolutely, upon the patient's submitting to a thorough examination at the hands of a competent gynecologist and such operative interference as may be necessary. It would be unnecessary, we are sure, to discuss in detail the conditions which evidently follow a gonococcus-infection. It is understood that here we usually have to do with a subacute or a chronic condition that, as a rule, is not immediately dangerous to life, whereas in a streptococcic infection the course is acute, or active, from the beginning and always perilous throughout life. More or less permanent damage to the tubes results in either instance, and pelvic adhesions, sterility, and chronic invalidism will surely follow imperfect treatment; moreover, at any time the life of the patient may be endangered from recurrent attacks of peritonitis, fresh infection, rupture of tubal abscess or exhaustion following prolonged suppuration. You must impress these facts upon the woman, as well as her culprit husband.

In all cases of purulent salpingitis, septic endometritis must, of course, first be taken care of, inasmuch as a *tubal inflammation is beyond the reach of local measures*. Hence, if you desire to take very long chances, you must rely upon removing the uterine source of infection and trust to nature to limit the spread of the disease by throwing out plastic lymph. In rare instances, tubal inflammation subsides, or the disease passes into the chronic form, as would seem to be the case here, or at any time grave pelvic lesions may develop and place the life of the woman in imminent peril.

In the first place, doctor, have a specimen of the discharge examined, to identify the infecting microorganism, then improve your patient's physical condition as much as possible, and then bring her to Chicago for radical treatment.

In this connection, let us suggest that you read up on salpingitis, endometritis, and allied conditions. You will find the subject very thoroughly covered in Ashton's "Practice of Gynecology."

For the time being, give your patient echinacoid and calcium sulphide in rather large doses, with nuclein as alternant. The latter may be given hypodermically. Order copious hot alkaline antiseptic douches each night, and the subsequent introduction of depleting (magnesium sulphate) and chinosol suppositories, alternately; that is to say, depleting suppository one night, chinosol the next. Twice a week, at your office, apply to the cervical canal iodine, ichthyol, and glycerin, then (if thoroughly familiar with intrauterine medication), with a long-nozzled uterine syringe, introduce 10 drops of a solution of thymol iodide in sterilized vegetable oil. This should be deposited well up at the fundus, and drop by drop. Have your patient placed upon a highly nutritious diet, and maintain thorough elimination.

However, once more, we would impress upon you the absolute uselessness and grave danger (to the patient) of palliative treatment under the circumstances.

QUERY 6043.—"Emetine, Echinacea, and Inula (Helenin) in Phthisis." F. B. S., New Mexico, asks for printed literature on emetine hydrochloride. He has been using this alkaloid to some extent, but wants to know more about its properties, and doctors with whom he has talked in New Mexico seem more or less ignorant about this. After reading articles in CLINICAL MEDICINE (especially the report from Doctor Thatchell, of China), our correspondent desires to try it out on himself, as he finds a few tubercle-bacilli in his sputum.

The discussion of the physiologic properties of emetine presented in the standard works on pharmacology and therapeutics is decidedly incomplete, Cushny, for instance, saying that emetine and cephaëline "are not used in practical therapeutics"; however, if the Doctor will read the abstract of Lyons' article on page 948, October issue, he will get a very clear idea of the dangers attending the excessive use of this alkaloid.

Among the more recent articles on the action of emetine are: "An Experimental Study of Emetine Hydrochloride," by M. S. Maurel, in the February, 1915, issue of CLINICAL MEDICINE, and "The Physiologic Action of Emetine Hydrochloride," by Nielsen, in our March issue.

There is no reason why the Doctor should not experiment with emetine on his own person, providing he begins with small doses. Raeburn, whose work was reported in *The Lancet* (see CLINICAL MEDICINE, March, p. 253), was much pleased with its action, although he employed only 1-40-grain doses. In such dosage it would be harmless, but larger doses are worthy of trial. That emetine will control hemoptysis has, of course, been definitely proven, but its action is not yet definitely understood. Emetine certainly is a decongestant of exceeding value and there are reasonable grounds for believing that it may exert an inimical effect upon the tubercle-bacillus.

As to inula helenium and echinacea, it has quite recently been demonstrated that marked beneficial results follow the administration of these two drugs in phthisis. For the last five years this writer has administered and recommended the use of helenin (the active principle of inula helenium) in conjunction with calcidin, guaiacol carbonate, and nuclein.

Recently, von Unruh, of New York, presented a report on a large number (98) of cases of pulmonary phthisis treated by him with echinacea angustifolia and inula helenium. A specially prepared compound used by him is given by intramuscular injection, daily or less frequently, according to the toleration of the patient. Not the slightest general or local toxic action of any kind has been observed, as he writes.

Von Unruh confirms our contention that echinacea increases the phagocytic power of the leukocytes, and has demonstrated that it affects a shift to the right in the neutro-

philes—Arneth's count—where a shift to the left had previously obtained. He considers, therefore, that echinacea produces, in the blood, effects parallel with, and similar to, those produced by vaccines, without any of the objectionable features of the latter.

Inula controls night sweats, first increasing then decreasing expectoration; it decidedly promotes secretion by the gastrointestinal glands, and exerts a direct toxic action upon the tubercle-bacillus. Von Unruh asserts that the tubercle-bacilli manifestly are destroyed by inula. He says: "The effect of the drug is clearly to be seen under the microscope, a great number of bacilli showing signs of destruction in ever progressive degree. There is a steady, more or less speedy decrease in the number of secondary bacilli. They swell up, become thick, heavy, and granular, and disintegrate until mere dots or beads are observed. These fragments, or beads, do not stain readily, and the usual spore-forms show no tendency to proliferation."

Echinacea exerts no direct effect upon the tubercle-bacillus, but, as has been pointed out, hyperleukocytosis and leukopenia are directly improved, and thereby the proportion of the white cells to the red ones is rendered normal; the percentage of neutrophiles becomes normal; and phagocytosis is now evident, where formerly no sign of it could be detected. Naturally, by favorably influencing phagocytosis, the number of the bacilli also is diminished; moreover, there always takes place a speedy decrease of cocci and pus.

Von Unruh, as already has been stated, has employed a special preparation of echinacea and inula helenium, of which he injects 3 to 5 Cc., intramuscularly, at frequent intervals. He has not employed the alkaloid of inula, but states that the consensus of opinion among German and English investigators is that the alkaloid, if pure and stable, would prove of more value than creosote or guaiacol in the treatment of tuberculosis, as it has none of the objectionable features of creosote and in proper dosage does not irritate the stomach.

We have administered helenin and echinacea, with very excellent results. While, of course, it is possible that a still more pronounced effect can be secured by the intramuscular injection of a carefully balanced preparation, such injections are not always possible or even advisable, whereas both drugs can be given internally with perfect safety. We suggest, Doctor, that you obtain No. 1, vol. vii, of *The National Eclectic Medical Association Quarterly*, which contains von Unruh's paper.

Since you tell us that only a very few tubercle-bacilli have been found in your sputum, we believe that calx iodata, nuclein, and small doses of guaiacol carbonate, alternated with helenin and echinacoid, might prove more useful in your case than would emetine.

QUERY 6044.—"Polyarticular Arthritis." F. L. J., Kentucky, has under treatment a case of "rheumatism" which so far has not yielded to any treatment tried and requests advice. The patient, a woman 28 years of age and mother of two healthy children, has no specific or hereditary taint. On February 1 last, she began complaining of a severe pain on the bottom of her foot, midway between the heel and toes. Some swelling appeared at the end of the second week, when the pain left this point but attacked the great toe of her left foot, and then, after a few days, the same toe of the other foot became affected. This pain is severe and there is redness and swelling; it is worse at night and in damp weather. The kidneys apparently are normal. The bowels act once or twice daily. The appetite is good at all times. This migratory pain, however, continues despite all medication tried by our correspondent, who wants us to suggest a line of treatment and express our opinion as to the probable value of vaccines.

Before prescribing for your patient, doctor, we should like to have a much clearer idea of the condition of her body-chemistry. A specimen of her urine and a blood-smear should be sent to a pathologist for examination. Also, we should know what is the condition of the pelvic viscera.

This may be a case of metatarsalgia, or Morton's disease. Is there any flattening of the arch? Of course, usually only one foot is affected, but occasionally pain is experienced in both members. It would be well to find out just what kind of shoes your patient has been wearing.

Arthritis, of course, may present itself in just the way you describe. As you are aware, polyarticular arthritis is observed most frequently in women; the twenty years between the ages of thirty and fifty cover the largest number of cases. Heredity is not proven, but undoubtedly the belief in arthritism in families is more or less widespread. Damp, cold locations, and deficient sunlight are predisposing factors. Today, however, we are inclined to the opinion that septic absorption

is at the root of most of these cases. Among the commonest sources are, pyorrhea, tonsillitis, cystitis, and gastrointestinal fermentation (retention-toxemia).

In this connection, we would call your attention to the various articles that have appeared in CLINICAL MEDICINE lately on emetine-therapy, especially those dealing with the disappearance of arthritic conditions subsequent to the correction of an existant pyorrhea after a course of emetine.

As you will readily understand, treatment in this particular case, if it is to be at all effective, must be based upon a clear conception of the basal pathology. An appropriate bacterin might prove materially beneficial.

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QUERY 6045.—"Hemiplegia of Obscure Origin." W. H. Y., Arkansas, writes us that he has in his care a boy of 12 years of age, who, otherwise healthy, recently had "some little tonsillar trouble," but never has had rheumatism. He was suddenly taken with a weak, tired feeling; he had no fever, but on the third day he experienced difficulty in moving his right leg and arm, that is, paralysis in a very light form. He has severe cramps, and moans or whines all the time when not under the influence of medicine. He has had no injury and shows no marks to indicate any violence. "Could it be," our correspondent asks, "a true paralysis, caused by a clot, or is it a spinal trouble, with a nerve lesion?"

We regret to say that without a much clearer idea of basal pathological conditions it is impossible to venture a diagnosis. You state that the boy had some little tonsillar trouble. Has there at any time been suppuration? What is the family history? It is quite possible that the hemiplegia may be caused by an embolism or thrombosis—the latter usually observed in marantic conditions and occasionally resulting from syphilitic endarteritis.

You do not name the location of the cramps or character of the moan. Is there opisthotony? Spinal puncture and examination of the fluid withdrawn probably would prove informative. The reflexes should be carefully tested, of course.

The absence of fever, under the circumstances, is somewhat peculiar. Is there now or has there ever been any middle-ear disease? Then, the possibility of a cerebral tumor must be considered. As you are aware, a tumor may occur at any age, without any definite etiology. Paralysis in such cases generally first affects one extremity, an arm or leg, according to the location of the growth, while afterward it may involve the entire side, including the face.

If you will make a thorough examination of the little fellow and report your findings, we may be able to be of more definite assistance.

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QUERY 6046.—"Emetine in Vicarious Menstruation." E. M. B., Ohio, has in hand a bad case of vicarious menstruation and wishes to know whether emetine is indicated.

To the best of our knowledge, emetine has not as yet been employed in this condition; still, in view of its prompt action in other forms of hemorrhage, it may well be expected to prove useful here, too. It must not be forgotten, though, that disorders of the blood, nervous system, and nutrition, which so frequently constitute the basis, may materially limit the efficacy of emetine.

We have not a clear-enough idea of conditions to discuss the subject very intelligently. What, for example, is the site of the hemorrhage? Is there any ectopic bleeding?

In true vicarious menstruation, there is no uterine flow, but occasionally, with abnormal periodic bleeding, there may occur a monthly secretion of colostrum, profuse leucorrhea or even diarrhea. Epistaxis is most frequently observed, and occasionally bleeding occurs at the site of an old scar, from a raw surface or ulceration, the ear, conjunctiva, kidneys, bladder, larynx, the respiratory and alimentary tracts, gums, stomach, intestines, rectum, and so on. Also, the hemorrhage may be subcutaneous, and petechial points or ecchymoses are observed.

In nearly every instance, the use of emmenagogs, especially those direct in their action, is indicated. Marked results have followed the administration of nuclein, iron, and arsenic. However, we should be strongly inclined to give emetine a trial. Should you do so, we trust you will report your results for the benefit of the "family," and the profession at large.

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QUERY 6047.—"Sarcoma of Kidney." J. T. B., Montana, sent a specimen of tissue from a 2-year-old boy, for identification. His diagnosis is, "kidney tumor." The quantity of fluid extracted was about one quart. The Doctor desires to know as to whether the lesion is tuberculous, cancerous or benign. He can get no history of the trouble for more than six weeks back.

The report of the pathologist shows that undoubtedly he has to do with sarcoma of the kidney (spindle-cell variety).

Peculiarly enough, primary sarcomata of the kidney are observed most frequently in children. About two-thirds of the cases reported as such have been in children of less than 10 years of age. The tumor usually reaches a considerable size, generally is soft, and sometimes even fluctuating, owing to the formation of areas of softening. Until the later stages, there is comparatively little disturbance of the general health. The urine may, for a long time, be entirely free from abnormal constituents.

Holt reports a case of sarcoma of the kidney in a child 13 months old, the tumor weighing 7 pounds. Unless a radical operation is performed, such cases invariably terminate fatally. In recent years, the results of operation have been most encouraging. The particular individual mentioned by Holt was followed for sixteen years, and the growth did not reappear.

We shall be interested in learning the outcome in this instance.

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QUERY 6048.—"Normal Saline Solution. Fracture of Jaw." W. S. W., Georgia, asks:

1. "What is a normal saline solution, exactly speaking? Is it 1 ounce of sodium chloride in 16 ounces of water? I always have roughly guessed at this, but want to be accurate.

2. "I have a woman patient whose husband, a week ago, struck her on the angle of her lower jawbone. When she reached me six days later, she complained of much pain and there was considerable swelling both at the angle of the jaw and under the chin; the parts are 'lumpy' and very tender. Her temperature is 100° F. She could not chew anything and could open her mouth only partly. I ordered hot creolinated epsom-salt compresses for the sore jaw, to be renewed every two hours, also ordered the region painted with tincture of iodine, both externally and on the inner side. I gave her calomel, podophyllin and bilein granules, and salithia the next morning. This helped greatly, but today I still find those painful lumps under the chin and at the angle of the jaw.

"Is this condition amenable to local treatment or not? There may be a fracture at the angle, I cannot determine positively. If there is fracture at the angle of the jaw, why is there also a similar lump under the chin, where she was not struck? As I understand it, this 'lumpy' condition is due to an inflammatory exudate. Am I correct?"

1. Normal saline solution is prepared by adding 8 1-2 Grams of salt to a liter (1000 Grams) of water.

2. While it is impossible to speak definitely, we are inclined to think that your patient has sustained a fracture of the lower jaw. The fact that she can only partly open her mouth; that chewing is impossible, and that considerable swelling occurred at the angle of the jaw points strongly in that direction. Not infrequently indurated areas form under such circumstances, and even abscess may result.

See whether there is any inequality of the teeth, and with your thumb, carefully wrapped with gauze, placed in the mouth over the teeth, and the other fingers against the jaw, make pressure and see if you can cause any motion.

It is unfortunate, of course, that the woman did not consult you until six days after the lesion was sustained. Earlier, you would not have had so much difficulty in securing close apposition.

If you have access to any good modern work on surgery, say, Scudder's "Fractures and Dislocations," read the chapter on fractures and injuries of the lower jaw. A radiograph will, of course, prove informative.

Treatment of the swollen area will, necessarily, depend upon the exact conditions which obtain. If pus is forming, you may apply kaolin paste or hot moist compresses; then, as soon as the abscess points, lance, and evacuate the pus.

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QUERY 6049.—"Diffuse Sclerosis or Cerebral Abscess?" C. W. H., North Carolina, requests assistance in a case that baffles him. The patient is a farmer, 56 years of age, whose family history is negative and personal history good, except for attacks of "rheumatism" some years ago. Fifteen to twenty years ago, he traveled in the South, camping out, and contracted malaria. He has not been in the South since, and there is no malaria in his section. Six months before his present illness, he was very nervous, his hands trembling so that he could feed himself only with difficulty. At times, while abed, he would cry out to his wife to hold him lest he jump out.

On September 2, the patient was found to be "bilious and nervous," with a temperature of 102 to 103° F. He said that first he had been cold, as if he had a chill. Later, he became very nervous, his hands shook as from palsy, and the cheeks felt thick and painful. At the time of my visit, no special

pain was complained of; his pupils appeared normal—and so continued throughout. My offhand diagnosis was, nervous prostration and malaria, the result of a latent toxemia, acquired fifteen or twenty years ago.

The patient's temperature was very erratic but the fever ran very much like that observed in malarial fever. There was pronounced insomnia, so that later the question arose as to whether the fever was not due to nerve irritation and excitement, rather than to malaria. The fever continued for about two weeks, then normal temperature reobtained. The shaking of the hands ceased about the same time, but immediately a seeming stupor of the mind set in, and this state continues. It is hard to arouse patient; he does not know where he is, and cries like a hysterical woman. Fever has been absent for now two weeks; all of the body-functions are working well, respiration and pulse are normal. The patient is very weak, though not unduly so, under the circumstances; he talks weakly and indistinctly, as if his tongue did not move with ease, but he can put it out when told to do so. He eats when food is brought to him, but has no desire for food or anything else. He lies in bed with his eyes closed most of the time, takes no notice of objects in the room or of his animals on the farm. At times he is entirely out of his mind: says that he is connected with someone, that is, with some other person or personality, or a double self, and asks if this person is aware of the connection in the same way that he is. Then, in the next breath, he will make a sensible remark about the taste of his medicine or give a reason why he does not wish to take a certain medicine. There is complete mental inertia. He cries when we fail to understand his mumbled and indistinct talk. He seems to know the members of his family when spoken to, but does not realize that he is in his own home and bed. A consultant suggests that softening of the brain may be taking place.

The patient is receiving 1 grain of calomel or of podophyllin each evening, to prevent constipation. Our correspondent submits the report of an examination of the urine and asks us to give diagnosis, prognosis, and treatment.

Unfortunately, doctor, as you omitted to state the amount of urine voided in twenty-four hours, we are unable to ascertain the total solids and urea. We note that a marked hyperacidity obtains and much pus is present, together with streptococci, staphylococci, and colon-bacilli; also a few hyaline casts. There is no diminution in the output of urea; in fact, if the patient is passing a normal amount of urine, elimination is excessive. Since only a trace of indican and skatol are present, we may exclude a serious degree of intestinal fermentation.

The presence of streptococci is particularly ominous, considering the clinical picture. The source of the pus should be definitely ascertained. It is possible that you have to do with a hepatic abscess. Under such circumstances, especially if absorption is going on, we should expect more or less hyperpyrexia.

What about the prostate gland? A very careful examination of this man is necessary. The blood should be examined. It is quite possible that, with the recognition of the infected area, institution of indicated therapeutic procedures would prove curative. Examine the spine. Test the reflexes, deep and superficial.

It is possible, of course, that you have here the prodromal stage of myelitis, but the symptom-complex leads us more strongly to suspect diffuse sclerosis. There really is little evidence of involvement of the cord.

As you are aware, in cases of cerebral softening, there is marked exhaustion, impaired memory, and emotional weakness.

A cerebral abscess might be productive of most of the symptoms recorded. He seems to have little, if any, implication of the speech-center.

On general principles, we should advise, first of all, to purge the patient smartly with blue mass and podophyllin; then give calcidin, mercury, and nuclein, in alternation with arsenic iodide. Neuro-lecithin might be pushed with advantage, 1-2 to 1 grain every three hours. We should apply small cantharidal blisters, about the size of a 50-cent piece, along the spine, beginning at the nape of the neck; applying them on alternate sides of the vertebral prominence, at about a 3-inch distance, every second or third day. As soon as the blister forms, it should be evacuated and the site dusted with borated talcum or other drying powder. It is not desirable to maintain the irritation.

Flush the bowels very thoroughly, every second or third day, with normal salt solution at body-temperature. If the skin is dry, put the patient in a hot-pack, keeping the head exposed and covered with a cold towel at similar intervals.

In examining this man, pay particular attention to the spleen. See if you can discover any abnormality at all of the organ.